FILE NO: [illegible]

Entered in NID File _____ Checked by Chief _____

Entered on Plat Sheet _____ Copy NID to Field Office _____

Location Map Pinned _____ Approval Letter _____

Card Indexed _____ Disapproval Letter _____

IWR for State or Fee Land _____

COMPLETION DATA:

Date Well Completed _____ Location Inspected _____

OW _____ WW _____ TA _____ Bond released

GW _____ OS _____ PA _____ State or Fee Land _____

LOGS FILED

Driller's Log _____

Electric Logs (No.) _____

E _____ I _____ E-I _____ GR _____ GR-N _____ Micro _____

Lat _____ MI-L _____ Sonic _____ Others _____

Casper Division
Production, U.S. & Canada

Marathon Oil Company

P.O. Box 2659
Casper, Wyoming 82602
Telephone 307/235-2511

May 14, 1980

Mr. Mike Minder
Petroleum Engineer
State of Utah
Division of Oil, Gas & Minerals
1588 West North Temple
Salt Lake City, Utah 84116

Re: South Crawford Mountain #1-35
Sec. 35, T10N, R7E
Rich County, Utah

Dear Mr. Minder:

Submitted for your consideration is a list of equipment and procedures proposed for the monitoring and control of any H_2S gas encountered during the drilling of the above referenced well.

A copy of the complete Procedure & Operational Safety Program will be mailed to your office as soon as it is made available to us from the Safety Engineering Contractors. This Procedure will contain: Purpose of Program, Operating Procedures, Procedure Program, H_2S Emergency Procedures, Igniting the Well, Emergency Phone Numbers and, etc.

The following equipment will be on location prior to spudding:

1. Siren (Explosion Proof).
2. Three fixed gas monitors.
3. Flashing warning light (Explosion Proof).
4. 12 - 40 cubic feet, self-contained breathing apparatus.

The following equipment will be installed while drilling surface hole to 1,800' and will be fully operable before drilling out under surface casing:

1. Sufficient 40 cubic feet self-contained breathing apparatus will be available and placed at critical locations to protect operating personnel on location.

2. Dual monitor complete with visual and audible alarm system. (One monitor will be located at the bell nipple and the other at the shale shaker).

3. Three wind socks with streamers.

4. Marked locations of designated safe areas and escape routes.

5. Warning signs will be located no closer than 1/2 mile from the drilling site.

6. Personnel will be trained in the use of all safety equipment. (Names and dates of training will be posted on location.)

7. An approved contingency plan will be available and posted on location prior to starting operations.

8. Only authorized personnel will be allowed on drill site.

9. Initial contact will be made with local Sheriff's office, District Highway Patrol office, and area medical personnel.

10. Two bug fans, to blow opposite direction from designated safe areas.

11. Safety trailer with 15-300 C.F. cylinder cascade air supply system.

12. 1,000' low pressure air line hose with quick connects.

13. Two low pressure manifolds.

14. Eight air line masks with emergency escape cylinders.

15. Six 30-minute self-contained breathing apparatus.

16. First aid kit (36 unit).

17. Oxygen powered resuscitator with cylinder.

18. Flare gun with shells.

19. Gas detector (pump type).

If you require any information, please do not hesitate to call me.

Very truly yours,

MARATHON OIL COMPANY

K. A. Thoma.

K. A. Thoma
Drilling Superintendent

KAT/WEW:jas

cc: Mr. Ed Guynn
District Engineer
U.S.G.S.
8426 Federal Building
125 South State Street
Salt Lake City, Utah 84138

Mr. George Diwachak
Environmental Scientist
U.S.G.S.
8426 Federal Building
125 South State Street
Salt Lake City, Utah 84138

Mr. R.F. Bolender
Marathon Oil Company
P.O. Box 120
Casper, Wyoming 82602

Form 9-331 C
(May 1963)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

5. LEASE DESIGNATION AND SERIAL NO.: U-25097

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL: OIL WELL [ ] GAS WELL [X] OTHER — SINGLE ZONE [ ] MULTIPLE ZONE [ ]

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: South Crawford Mountain

2. NAME OF OPERATOR: Marathon Oil Company

9. WELL NO.: 1-35

3. ADDRESS OF OPERATOR: P.O. Box 2659, Casper, WY 82602

10. FIELD AND POOL, OR WILDCAT: Wildcat

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 2,548' FSL & 512' FEL NE SE
At proposed prod. zone:

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 35, T10N, R7E

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 3-1/2 miles Northeast and 1-1/2 miles North of Woodruff, UT

12. COUNTY OR PARISH: Rich

13. STATE: Utah

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)	512'	16. NO. OF ACRES IN LEASE: 2,461.04	17. NO. OF ACRES ASSIGNED TO THIS WELL: 645.04
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.	None	19. PROPOSED DEPTH: 6,000' Cretaceous	20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 7,246' GL

22. APPROX. DATE WORK WILL START*: June 1, 1980

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
Please see Item #4 of 10-Point Program for complete casing and cementing program				

Please see the following attachments:

1. Surveyor's Plat
2. Ten-Point Drilling Program
3. BOP Schematic
4. Thirteen-Point Surface Plan
5. Maps & Diagrams

APPROVED BY THE DIVISION
OF OIL, GAS, AND MINING
DATE: 6-23-80
BY: M. J. Munder

Providing company owns or controls acreage within 660' of proposed site.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED Dale Cobby TITLE District Operations Manager DATE May 14, 1980

(This space for Federal or State office use)

PERMIT NO. 43-033-30026 APPROVAL DATE 6/23/80

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

RECEIVED
MAY 21 1980
DIVISION OF
OIL, GAS & MINING

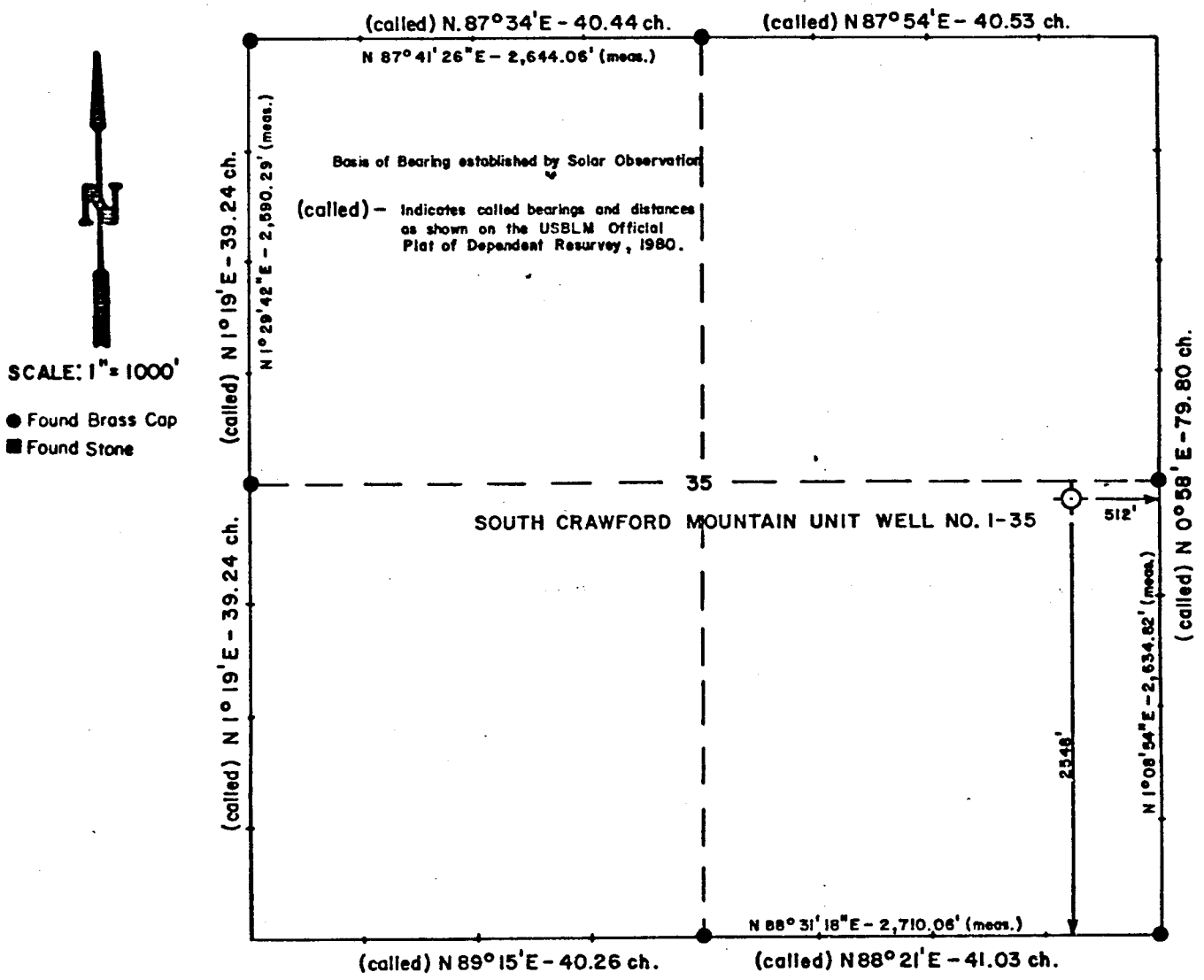
*See Instructions On Reverse Side

P.O. BOX 654
GREEN RIVER, WYOMING
82935
TELEPHONE: (307) 875-3638

WILLIAM H. SMITH & ASSOCIATE
SURVEYING CONSULTANTS

P.O. BOX 1300
MOAB, UTAH
84532
TELEPHONE: (801) 259-6861

T. 10 North R. 7 East



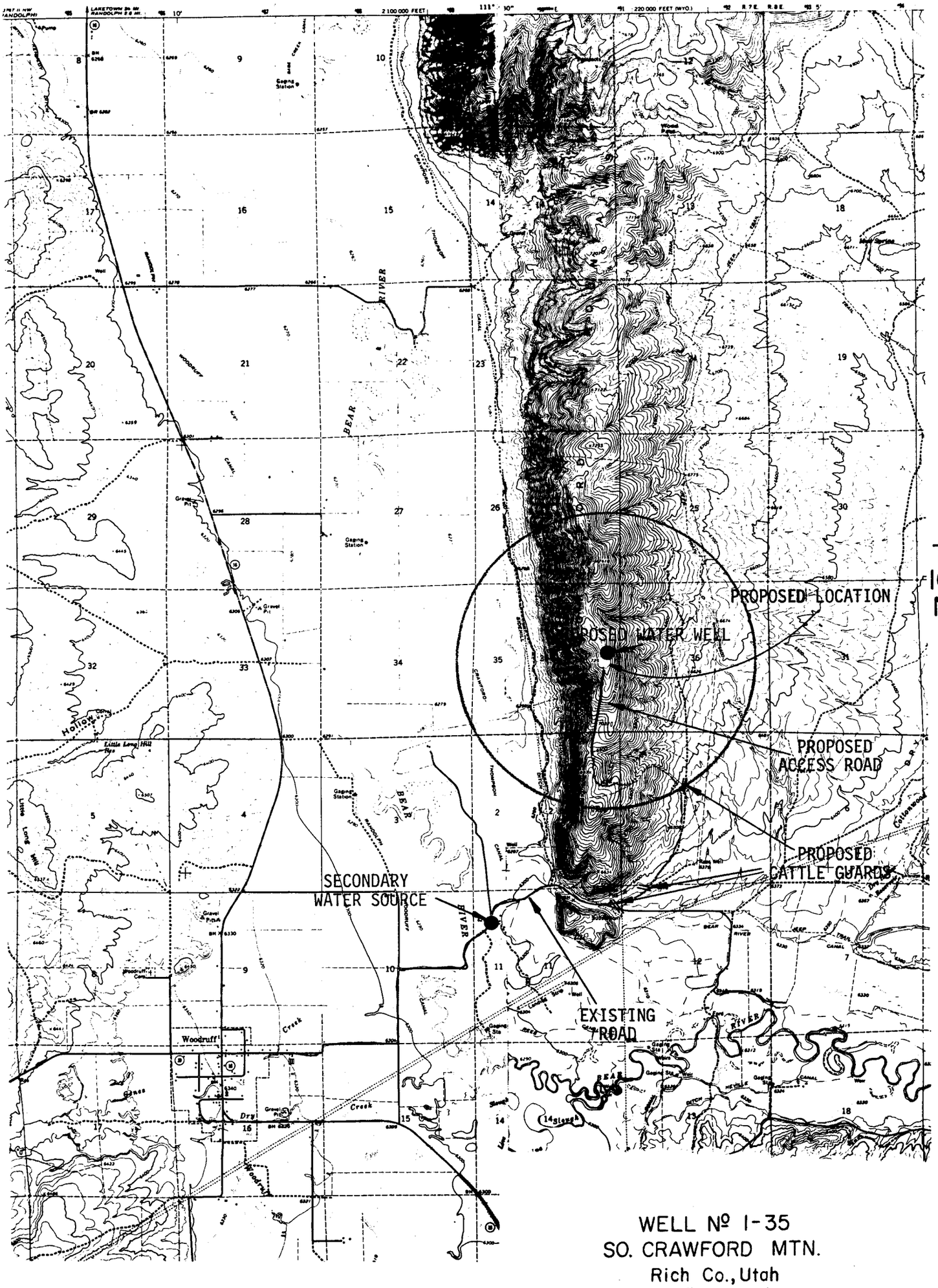
I, William H. Smith of Green River, Wyoming hereby certify that in accordance with a request from Walt West of Casper, Wyoming for Marathon Oil Company Randy Rowley under my supervision and direction made a survey on the 7th. day of May, 19 80 for location and elevation of the South Crawford Mountain Unit, Well No. 1-35. As shown on the above map, the wellsite is in the SE/4 of Section 35, Township 10 North, Range 7 East of the Salt Lake Base & Meridian, Rich County, State of Utah. Elevation is 7,246 feet ungraded ground Datum established at the Southwest section corner of Section 35, T10N, R7E as shown on USGS 7 1/2' topo "Woodruff, Utah."

Reference Point 390' NORTH, rebar stake & lath, Elevation top rebar = 7,218.0'
Reference Point 300' NORTH, rebar stake & lath, Elevation top rebar = 7,225.3'
Reference Point 200' SOUTH, rebar stake & lath, Elevation top rebar = 7,235.7'
Reference Point 200' EAST, rebar stake & lath, Elevation top rebar = 7,205.3'
Reference Point 250' WEST, rebar stake & lath, Elevation top rebar = 7,228.4'
Reference Point 200' WEST, rebar stake & lath, Elevation top rebar = 7,236.6'

William H. Smith
UTAH R.L.S NO. 2764

JOB NO. 188-79

R.7 E.



WELL Nº 1-35
SO. CRAWFORD MTN.
Rich Co., Utah
1" = 4000'

DIAGRAM A

APPLICANT: MARATHON OIL CO.
Box 2659
Casper, Wyo. 82602

MARATHON OIL COMPANY
SURFACE USE & OPERATIONS PLAN

DATE: May 14, 1980

WELL NAME: South Crawford Mountain #1-35

LOCATION: 2,548' FSL & 512' FEL, Sec. 35, T10N, R7E, Rich Co., Utah

#1 Existing Roads:

A. Proposed well site as staked. (Actual staking should include two each 200-foot directional reference stakes).

See survey plat.

B. Route and distance from nearest town and locatable reference point to where well access route leaves main road.

See map Diagram "A", color coded red.

C. Access road(s) to location color-coded or labeled.

See map Diagram "A", color coded green.

D. If exploratory well, all existing roads within a 3-mile radius (including type of surface, conditions, etc.).
All existing roads within 3 mile radius is county roads and improved trails, surface fair to poor condition. There are some small portions that are privately owned. See map diagram Part of "A".

E. If development well, all existing roads within a 1-mile radius of well site.

Not applicable.

F. Plans for improvement and/or maintenance of existing roads.

Blade and graveled where needed.

#2 Planned Access Roads:

Map showing all necessary access roads to be constructed or reconstructed, showing:

(1)	Width	16'
(2)	Maximum grades	0.5% to 20%
(3)	Turnouts	None required.
(4)	Drainage design	Ditched and crowned.

(5) Location and size of culverts and brief description of any major cuts and fills.

No culverts are anticipated.

(6) Surfacing material

Gravel

(7) Necessary gates, cattleguards, or fence cuts.

Three cattle guards will be required. There will be no fence cuts.

(8) (New or reconstructed roads are to be center-line flagged at time of location staking).

All new access road will be center-line flagged, and will be walked 50' on each side by Archeologist from the University of Utah. See map diagram "A", color coded green.

#3 Location of Existing Wells:

Two-mile radius map if exploratory, or 1-mile radius map if development well, showing and identifying existing:

(1) Water wells None

(2) Abandoned wells None

(3) Temporary abandoned wells None

(4) Disposal wells None

(5) Drilling wells None

(6) Producing wells None

(7) Shut-in wells None

(8) Injection wells None

(9) Monitoring or observation wells for other resources.
None

#4 Location of Existing and/or Proposed Facilities:

A. Within 1-mile radius of location show the following existing facilities owned or controlled by lessee/operator:

(1) Tank Batteries None

(2) Production Facilities None

(3) Gathering Lines None

(4) Gas Gathering Lines None

(5) Injection Lines (Indicate if any of the above lines are buried).
None

(6) Disposal Lines None

B. If new facilities are contemplated, in the event of production, show:

(1) Proposed location and attendant lines by flagging if off of well pad.

Adjacent to the access road and as close to the proposed drill site as possible, without setting on any fill. See diagram "B".

(2) Dimensions of Facilities

See Diagram "B".

(3) Construction methods and materials:

Good engineering practices will be used in the construction of these facilities and materials will be obtained through local vendors and contractors.

B. If new facilities are contemplated, in the event of production, show: (cont'd)

(4) Protective measures and devices to protect livestock and wildlife.

Woven wire fences of the pit areas and flagging, if necessary.

C. Plans for rehabilitation of disturbed areas no longer needed for operations after construction completed.

Restoration of the drill site and tank battery areas will be reshaped to conform with the topography. The top soil will be redistributed at the proper time. The sites will be reseeded as per the recommended seed mixture.

#5 Location and Type of Water Supply:

A. Show location and type of water supply either on map or by written description.

A water supply well will be drilled on the well site. Necessary permitting will be obtained from Division of Water Rights, State of Utah.

B. State method of transporting water, and show any roads or pipelines needed.

None

C. If water well is to be drilled on lease, so state. (No APD for water well necessary, however, unless it will penetrate potential hydrocarbon horizons).

Water supply well will be drilled.

#6 Source of Construction Materials:

A. Show information either on map or by written description.

Construction materials will be native soil or purchased from a Jobber and hauled to the well site by same.

B. Identify if from Federal or Indian Land.

None

C. Describe where materials, such as sand, gravel, stone and soil material, are to be obtained and used.

Any needed materials will be purchased from a Jobber and hauled to the well site.

D. Show any needed access roads crossing Federal or Indian Lands under Item 2.

None

#7 Methods of handling Waste Disposal:

Describe methods and location of proposed containment and disposal of waste material, including:

(1) Cuttings — Reserve Pit

(2) Drilling fluids — Reserve Pit

(3) Produced fluids (oil, water) — Frac Tanks

#7 Methods of Handling Waste Disposal: (cont'd)

(4) Sewage Porta Pot

(5) Garbage and other waste material (Trash pits will be completely contained with small mesh wire to prevent wind scattering trash before being burned or buried).

There will be a 10' x 10' burn pit on the drill site, and it will be fenced.

(6) Statement regarding proper cleanup of well site area when rig moves out.

At the completion of drilling, the site and surrounding area will be cleaned up and all burnable material will be put in the burn pit and burned. All foreign material will be buried.

#8 Ancillary Facilities:

Identify all proposed camps and airstrips on a map as to their location, area required and construction methods. (Camp center and airstrip center lines to be staked on the ground).

None planned.

#9 Wellsite Layout:

A plat (not less than 1" = 50') showing:

(1) Cross sections of drill pad with cuts and fills.
See Diagram "C".

(2) Location of mud tanks, reserve, burn and trash pits, pipe racks, living facilities and soil material stockpiles.

See Diagram "D".

(3) Rig orientation, parking areas and access roads.

See Diagram "D"

(4) Statement as to whether pits are to be lined or unlined. (Approval as used in this section means field approval of location. All necessary staking of facilities may be done at time of field inspection). A registered surveyor is not mandatory for such operations.

The reserve pit will be lined, if necessary.

#10 Plans for Restoration of Surface:

State restoration program upon completion of operations, including:

(1) Backfilling, leveling, contouring and waste disposal; segregation of spoils materials as needed.
The drill site will be cleaned and waste material will be put in the trash burn pit, which will be covered at the finish of the drilling operation. The reserve pit will be backfilled as soon as it is dry.

(2) Revegetation and rehabilitation - including access roads (normally per BLM recommendations).

The top soil will be redistributed and at the proper season the seed mixture of BLM requirements will be drilled planted.

#10 Plans for Restoration of Surface: (cont'd)

(3) Prior to rig release, pits will be fenced and so maintained until cleanup.

The reserve pit will be fenced on 3 sides during drilling. At the completion of the drilling, all pits will be fenced on the one remaining side.

(4) If oil on pit, remove oil or install overhead flagging.

If there is oil on the reserve pit, it will be removed or flagged with overhead flagging.

(5) Timetable for commencement and completion of rehabilitation operations.

Depending upon climatic conditions, restoration should be completed from six months to one year after spud date.

#11 Other Information:

General Description of:

(1) Topography, soil characteristics, geologic features, flora and fauna.
Topo is sagebrush covered hills, occasionally dissected by drainage features.
Flora is sagebrush, wheat grass and short stubby native grasses.
Fauna is deer, rabbits, fox, small rodents, cattle and sheep.

(2) Other surface use activities and surface ownership of all involved lands.

The drill site and access road are owned by the U.S. Government.

(3) Proximity of water, occupied dwellings, archeological, historical or cultural sites.

There is no water or occupied dwellings in the area. Archeological services are to be performed by Dr. Richard Holmer and his staff, University of Utah.

#12 Lessee's or Operator's Representative:

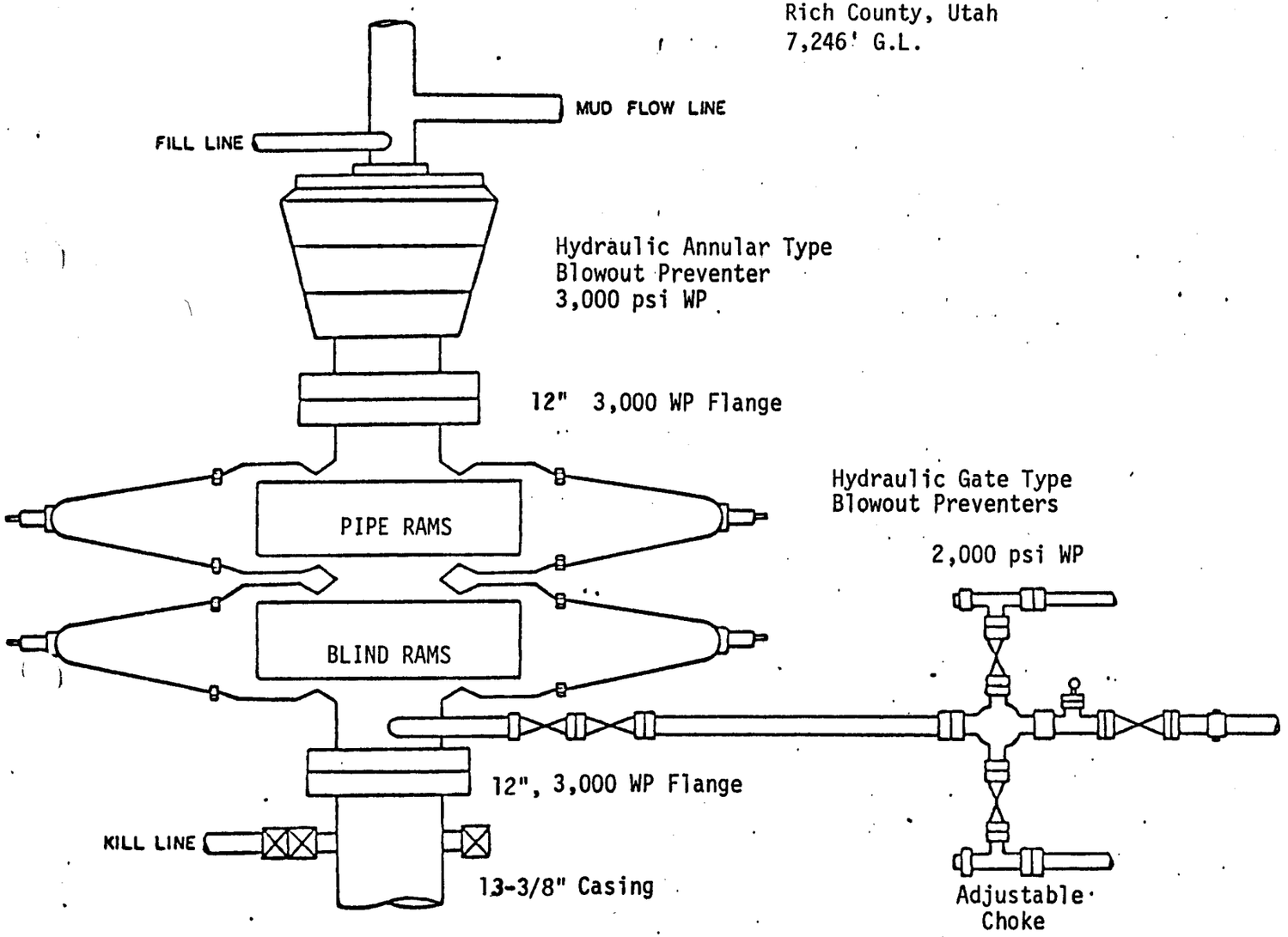
Mr. K.A. Thoma
Marathon Oil Company
P.O. Box 2659
Casper, WY 82602
(307) 235-2511 Ext. 514

#13 Certification: The following statement is to be incorporated in the plan and must be signed by the lessee's or operator's field representative who is identified in item No. 12 of the plan:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed herein will be performed by Marathon Oil Company and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

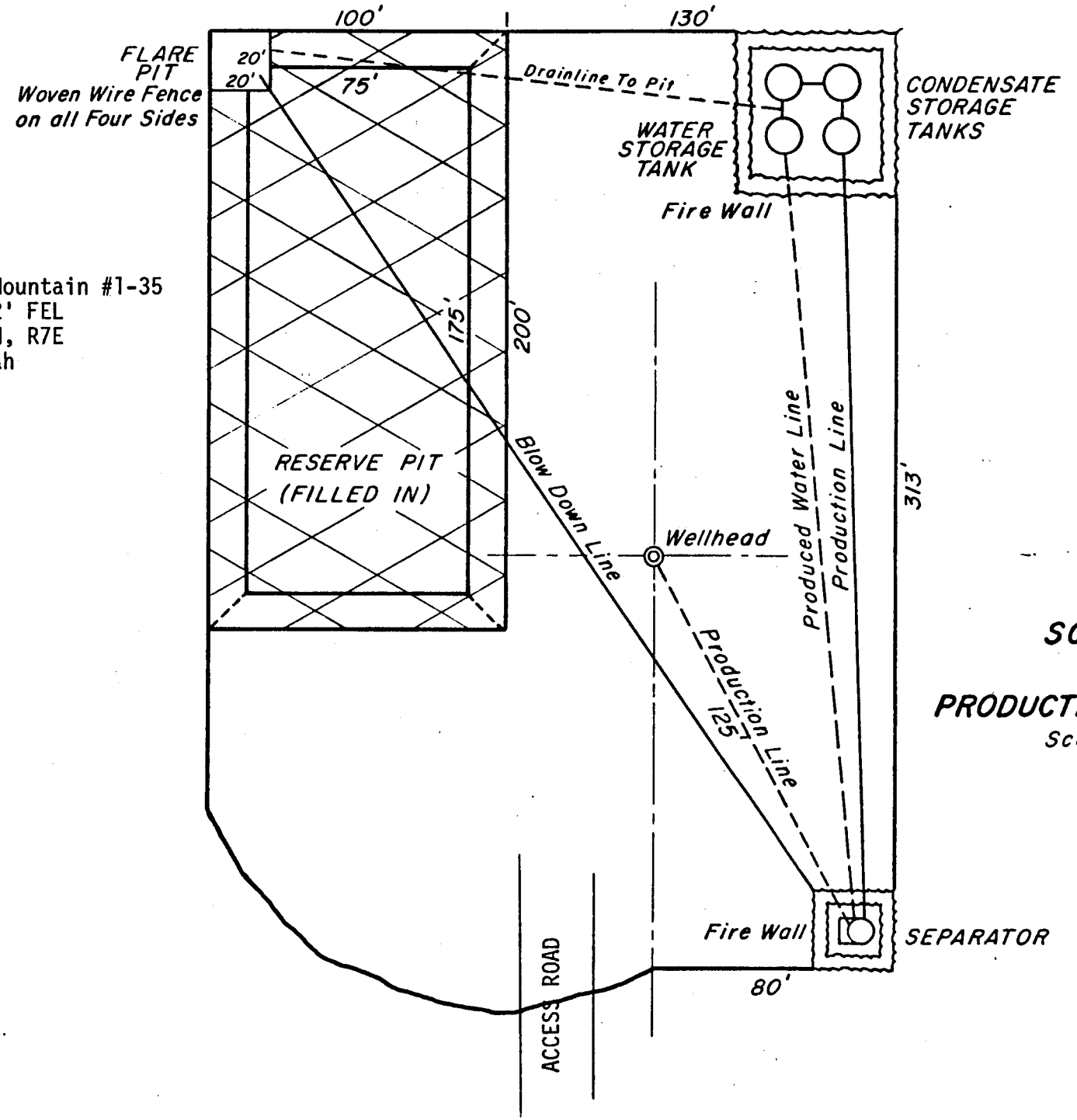
May 14, 1980 — Date
K.A. Thoma — Name
Drilling Sup't. — Title

South Crawford Mountain #1-35
2,548' FSL & 512' FEL
Sec. 35, T1ON, R7E
Rich County, Utah
7,246' G.L.



1. Blowout preventers, master valve, plug valve and all fittings must be in good condition. Use new API Seal Rings.
2. All fittings (gates, valves, etc.) to be of equivalent pressure rating as preventers. Valves to be flanged and at least 2" unless otherwise specified. Valves next to BOP to be plug type and nominal 3".
3. Equipment through which bit must pass shall be as large as the inside diameter of the casing that is being drilled through.
4. Safety valve must be available on rig floor at all times and with proper connections. The I.D. of safety valve should be as great as I.D. of tool joints of drill pipe.
5. Kelly safety valve installed, same working pressure as BOP's.
6. All lines and controls to preventers must be connected and tested before drilling out of surface pipe.
7. BOP's must be fluid operated, complete with accumulator with controls on the rig floor and one or more remote controls near steps or at accumulator.
8. Fillup line tied to drilling nipple, the connection must be below and approximately 90^{o} to the flow line.
9. Gauge will be installed for testing but removed while drilling.
10. Spool not required, but when side outlet on BOP's is used, it must be below bottom ram.
11. Casinghead and casinghead fittings to be furnished by Marathon Oil Company.
12. Chokes will be adjustable.
13. One side of casinghead may be bull plugged.

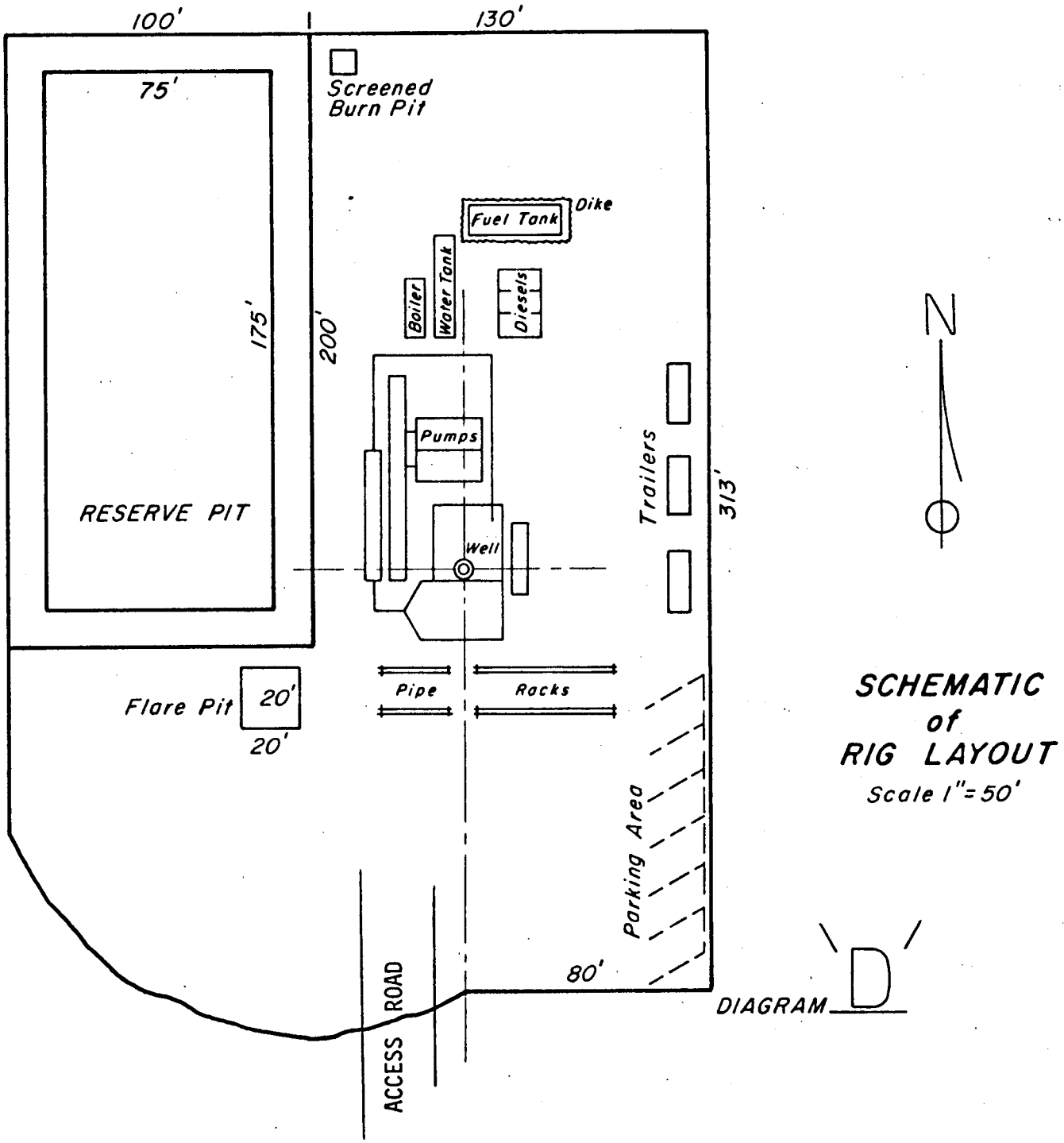
South Crawford Mountain #1-35
2,548' FSL & 512' FEL
Section 35, T10N, R7E
Rich County, Utah



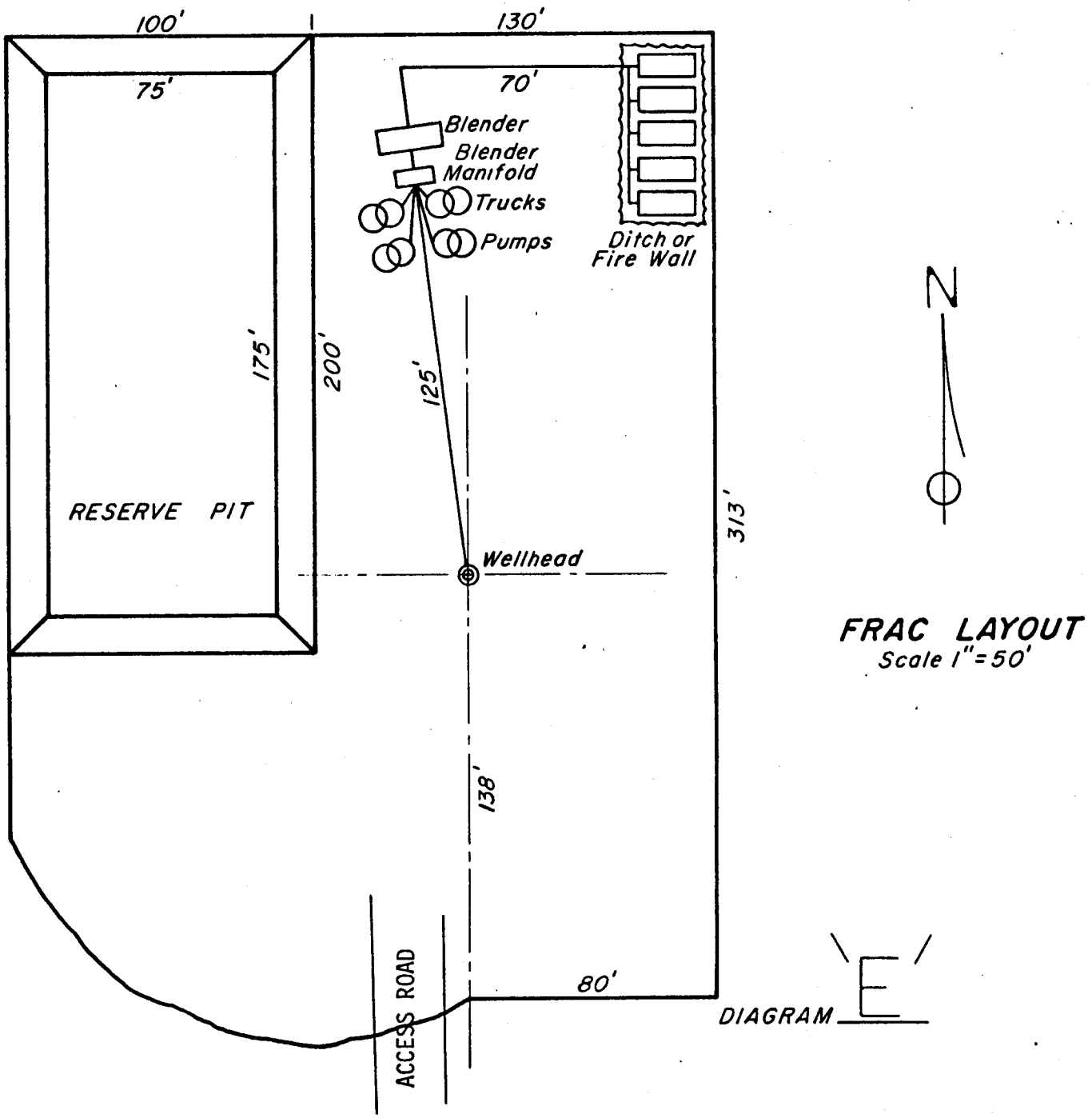
SCHEMATIC OF PRODUCTION FACILITIES
Scale 1"=50'

DIAGRAM B

South Crawford Mountain #1-35
2,548' FSL & 512' FEL
Section 35, T10N, R7E
Rich County, Utah



South Crawford Mountain #1-35
2,548' FSL & 512' FEL
Section 35, T10N, R7E
Rich County, Utah



FRAC LAYOUT
Scale 1"=50'

DIAGRAM E

MARATHON OIL COMPANY

DRILLING OPERATIONS PLAN

DATE: May 14, 1980

WELL NAME: South Crawford Mountain #1-35

LOCATION: 2,548' FSL & 512' FEL, Sec. 35, T10N, R7E, Rich Co., Utah

1. Geologic name of the surface formation:
   Brazer

2. Estimated tops of important geological markers:

Formation	Depth (From G.L.)
Brazer	Surface
Lodgepole	1,100'
Three Forks	1,700'
Jefferson	2,100'
Bighorn	2,400'
Crawford Thrust	5,000'
Cretaceous	5,000'
T.D.	6,000'

3. Estimated depths at which oil, water, gas or other mineral bearing formations are expected to be encountered:

Formation	Depth	Probable Content
Jefferson	2,100'	Gas
Bighorn	2,400'	Gas

All shallow fresh water sands are to be isolated behind the surface casing. Potentially dangerous quantities of hydrogen sulfide may be encountered in gas zones above the Crawford Thrust.

4. The Proposed Casing Program:

Casing Design

CASING STRING	HOLE SIZE	INTERVAL	SECTION LENGTH	SIZE (OD)	WEIGHT, GRADE AND JOINT	NEW OR USED	MUD WEIGHT	(1,000#) TENSION LOAD	SF_t	SF_c	SF_b
Conductor	36"	0 - 70'	70'	30"	Thinwall Steel Pipe	New	N/A	N/A	N/A	N/A	N/A
Surface	17-1/2"	0 - 1,800'	1,800'	13-3/8"	54.5#,K-55,ST&C	New	9	98	5.58	1.34	3.01
Production	8-3/4"	0 - 6,000'	6,000'	7"	26#, K-55, LT&C	New	9	156	2.57	1.54	2.37

If severe lost circulation problems are encountered while drilling surface hole, it may be necessary to set an intermediate string of 20" Conductor pipe. Also, hole conditions or potential productive intervals below surface casing at 1,800' may dictate setting an intermediate string of 9-5/8" casing.

Cementing Program:

Surface Casing

Lead Slurry: 1,200' calculated plus 100% excess. 1,000 sacks Halliburton Light containing 3% salt and 1/4# flocele/sack.

Tail Slurry: 600' calculated plus 100% excess. 700 sacks Class G containing 3% salt and 1/4# flocele/sack.

Casing Equip: Differential fill float shoe, differential fill float collar, 8 centralizers. WOC time to be a minimum of 12 hours. Casing will be pressure tested to 1,500 psi. The shoe will be drilled out and an additional 5' of hole made. A leakoff test will be conducted before drilling ahead.

Production Casing

Lead Slurry: Halliburton Light cement containing 18% salt and .75% CFR-2.

Tail Slurry: Class G cement containing 18% salt and .75% CFR-2. Both slurries to be retarded for approximately 4 hours pumping time. Casing equipment, cementing intervals and volumes will be determined from logs.

Note: Cement volumes, properties, and additive names are based on Halliburton products for reference only. Equivalent slurries from other service companies may be substituted if desired.

5. Pressure Control Equipment:
One annular BOP (Hydril) and dual ram type BOP w/pipe and blind rams. All equipment to have a 3,000 psi or greater working pressure. The accumulator to be of sufficient size to open and close all components of the BOP stack without operating the pump. Operation of all BOP components to be checked daily, except the blind rams, which will be operated on trips. Blind rams and pipe rams will be tested to 2,000 psi (approximately 75% of the internal yield of the 13-3/8", 54.5#, K-55 casing) and the annular preventor will be tested to 1,500 psi prior to drilling under the surface casing. Test choke/ kill line, choke manifold, and all valves to same pressure as BOP components.

6. Drilling Mud Program:

From	To	Type Mud	Weight	% Oil	Water Loss
Surface	1,800'	Water/Gel	8.5-9.5		As Required
1,800'	T.D.	Gel	8.5-9.5		Less than 15 cc's

Water loss will be controlled to combat sloughing shales. Lost circulation may occur at any depth in the hole; therefore, mud weight will be maintained no higher than necessary to prevent formation fluid influx into the wellbore. LCM will be available on location. A low solids non-dispersed mud system will be used from 1,800' to T.D. with barite being included to control weight if required. H_2S may be encountered in the Jefferson & Bighorn Formations, and an H_2S scavenger and corrosion agent will be used in this interval. A maximum pressure of 2,640 psi is anticipated at T.D. which will require an 8.4 ppg mud.

7. Auxillary Equipment Required:
A drilling rate recorder, calibrated to record drilling time for each one foot interval will be used. The mud system will include a desander, desilter, gas separator, degasser, trip tank, pit level monitor and a flowline sensor. Both a remote adjustable choke and a manual choke will be used. A kelly cock will be used, a TIW safety valve and an inside BOP will be available on the rig floor. A casing head bowl protector will be installed after setting surface and will be in use during all drilling operations. A hydrogen sulfide respiratory drill site unit will be placed on location, and the crews will be thoroughly trained in H_2S safety. Mud line flow rate indicators and recording equipment (i.e. the Visulogger System, Totco) shall be used during drilling operations.

From	To	Maximum Distance Between Surveys	Maximum Deviation From Vertical	Maximum Change Per 100' of Depth
0	1,800'	100'	*	1^0
1,800'	T.D.	100'	*	1^0

*High angle dip will make deviation control difficult. Survey interval will be dependent on hole condition and severity of deviation problem.

8. Testing, Logging, Coring and Fracing Program:
Drilling samples will be taken every 10' from surface to T.D. or as directed by the wellsite geologist or engineer. A two-man mud logging unit with H_2S detection equipment will be assigned to the well from surface to T.D.

The well will be logged prior to reaming the surface hole and at T.D. will be logged to the surface casing shoe. The following logs are anticipated: BHC-Sonic w/GR; FDC-CNL-GR, an E-Log (either SP-DIL or SP-DLL), dipmeter-caliper, and a Fracture Identification Log. A computer evaluation shall be applied to zones of interest. During the drilling phase, a determined number of DST's and cores will be utilized to insure proper formation evaluation.

Fracing Program:
This well will be fracture treated if necessary. If fractured, the volume will be dependent on reservoir height and permeability. (Typical jobs may vary from 20,000 gals. to 200,000 gals.) Temporary storage facilities for volatile fluids will be placed no closer than 125 feet from any well. They will also be located to take advantage of the prevailing wind by being down stream from any engines or other sources of ignition. Operating equipment and other sources of ignition will be kept 125 feet from the well and storage facilities during operation which utilize volatile fluids. Ditches and/or dikes will be used to divert catastrophic spillages of volatile fluids away from personnel, well head, and equipment. Prior to commencing operations requiring volatile fluids, all employees and contractors on location will be informed of procedures and safety hazards through an on-site safety meeting.

See Diagram "E" for frac layout.

9. Abnormal Conditions:
No abnormal pressures or temperatures are expected. A maximum temperature of 130° F and a maximum pressure of 2,640 psi is expected at T.D.

10. Anticipated starting date and duration:

Starting Date: 2nd Quarter

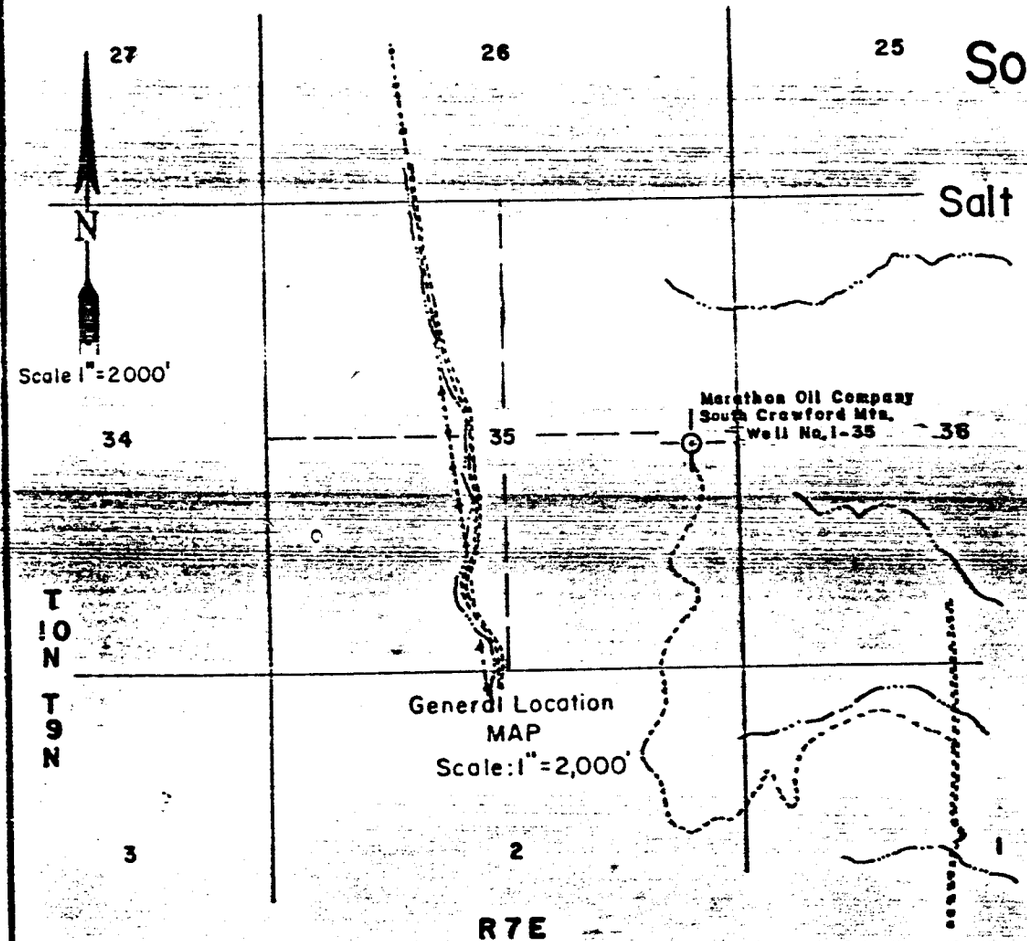
Duration: 90 days

Name: K.A. Thoma.

Title: Drilling Supt.

Date: May 14, 1980

South Crawford M
Located in the
Section 35 T1C
Salt Lake B&M,



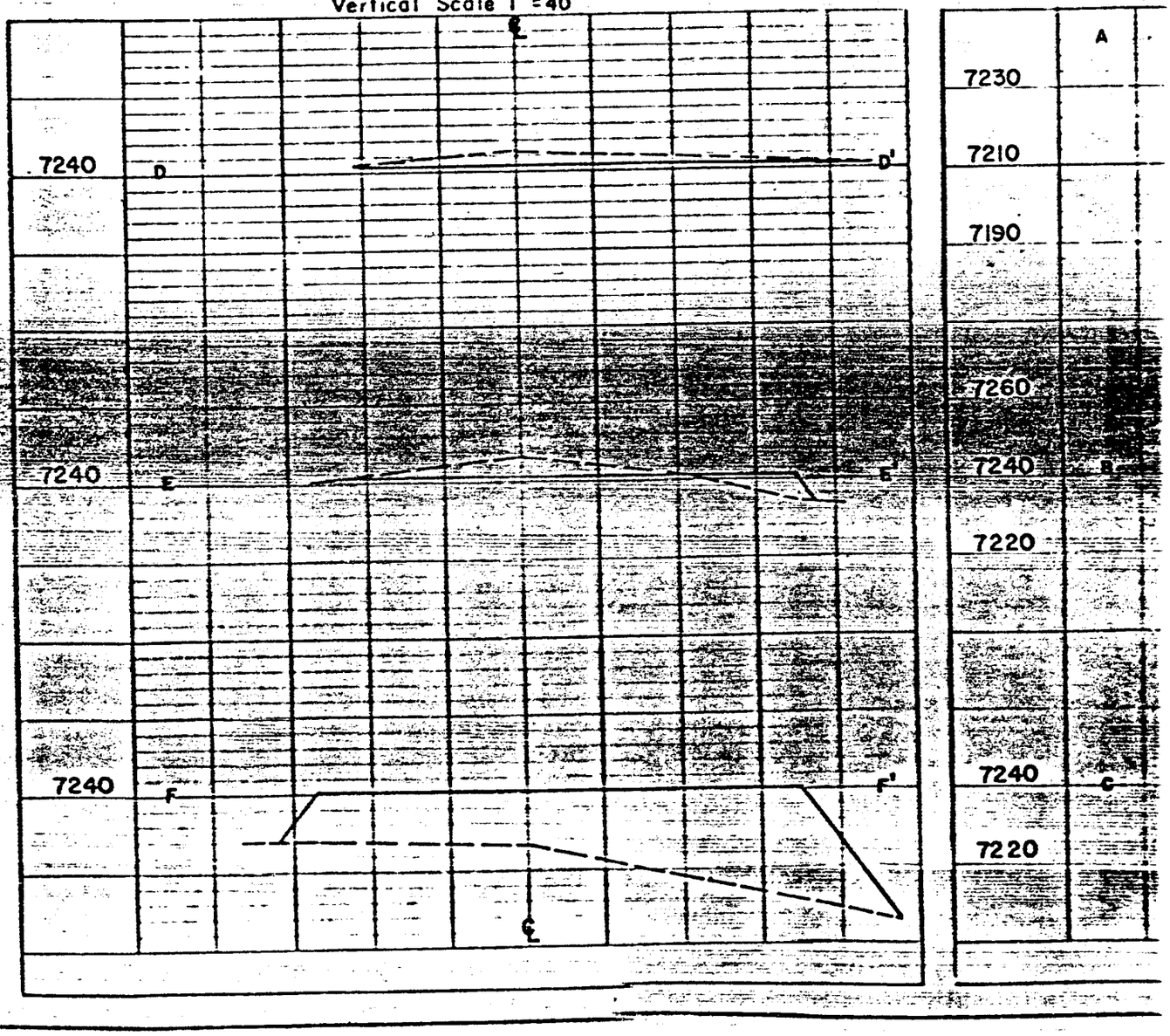
Total Y

Cut = 13,113
Fill = 13,29
Spoil pile = -
Top soil = -

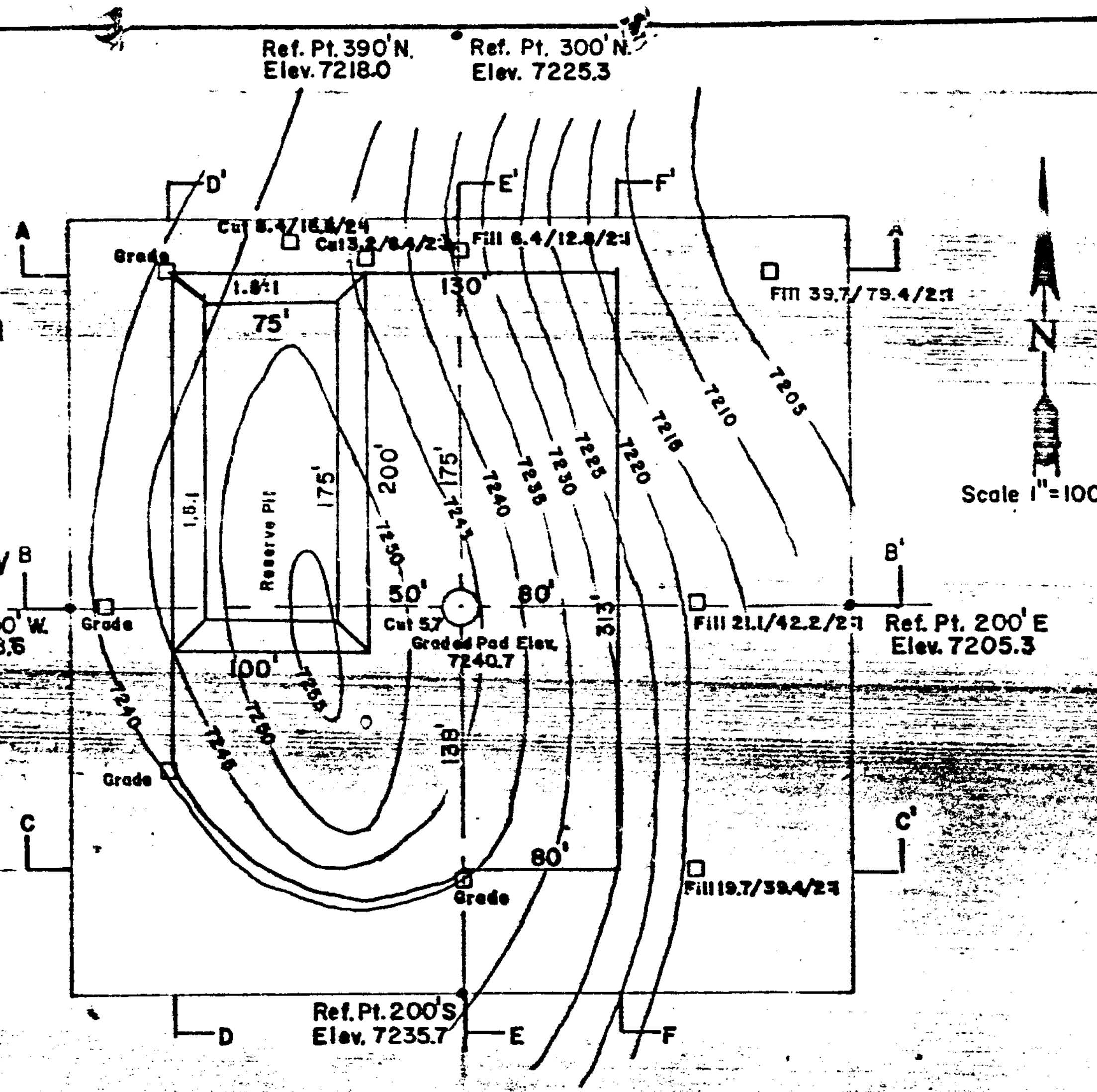
Reserve pit c
31,000

R7E

Cross Sections
of
Laydown Direction
Horizontal Scale 1" = 100'
Vertical Scale 1" = 40'



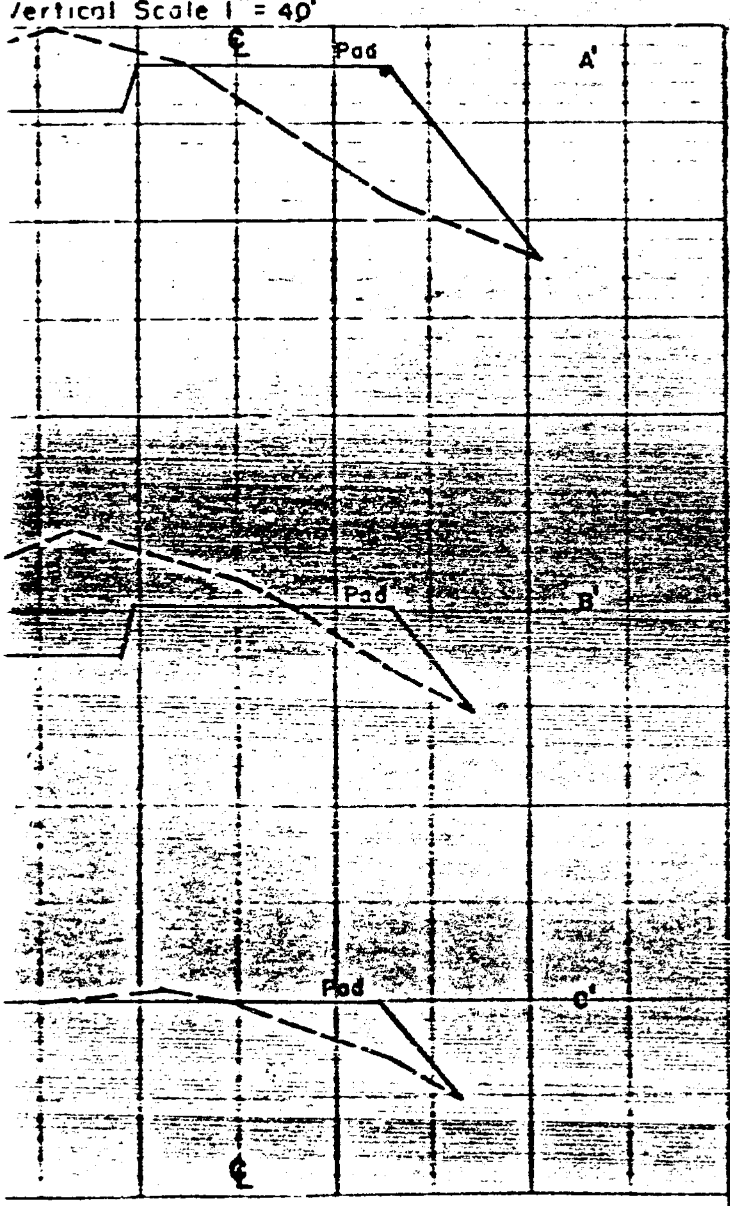
Well No. 1-35
SE/4 of
7 E of the
County, Utah



yds.
yds.
yds.
yds.

at 10' depth

Cross Sections
of
Reserve Pit
Horizontal Scale 1" = 100'
Vertical Scale 1" = 40'



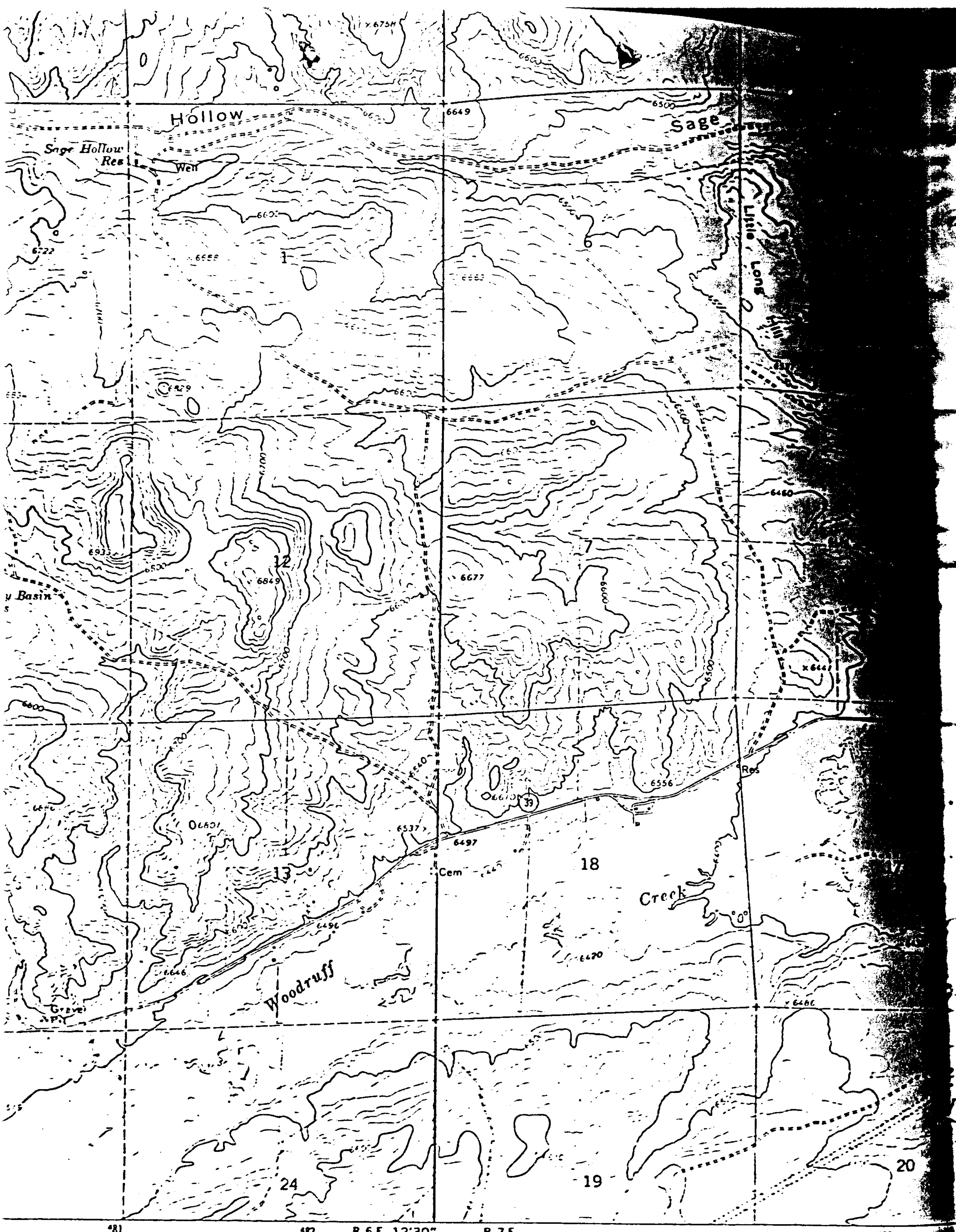
MAP

To Accompany Application
for
PERMIT To DRILL
Applicant:
Marathon Oil Company
P.O. Box 120
Casper, Wyoming 82601

Prepared
By
William H Smith
and Associates
Surveying, Consultants

By: BG
Date: May 9, 1980
Job No. 188-79

Diagram C



Geological Survey

rom aerial
958

n datum
system, north zone
grid ticks.

e lines

GN MN
0°07'
2 MILS
16½°
293 MILS

UTM GRID AND 1968 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

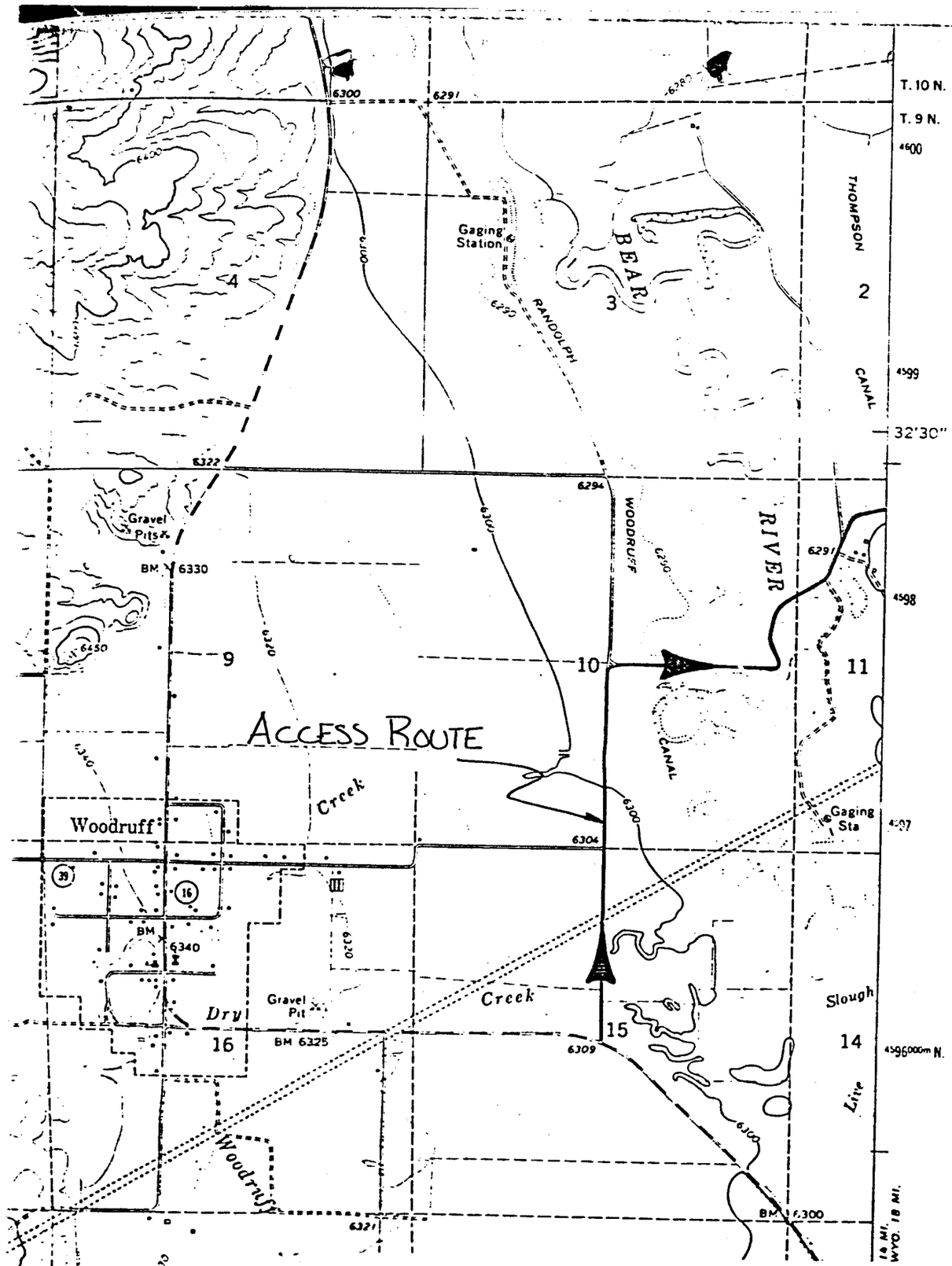
SCALE 1:24 000

1000 0 1000 2000 3000 4000 5000 6000

1 .5 0 1 KILOMETER

CONTOUR INTERVAL 20 FEET
DOTTED LINES REPRESENT 10-FOOT CONTOURS
DATUM IS MEAN SEA LEVEL

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR WASH
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON



ACCESS ROUTE MAP

FOR

MARATHON OIL COMPANY

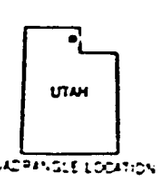
SOUTH CRAWFORD MOUNTAIN UNIT, WELL NO. 1-35

Located in SE/4, Section 35, T10N, R7E.

BY

WILLIAM H. SMITH & ASSOCIATES, P.C.

SURVEYING CONSULTANTS



QUADRANGLE LOCATION

BY: RR

JOB NO. 188-79

MAY 8, 1980

SHEET 1 OF 2

D. C. 20242

3400 W. Yellowstone
P. O. Box 2652
Casper, Wyoming 82602

(307) 266-1616

PALS, INC.
H2S SAFETY EQUIPMENT

Williston, North Dakota
(701) 572-7222

Evanston, Wyoming
(307) 789-4013

Hydrogen Sulfide Safety

On-site Equipment

For

Marathon Oil Company

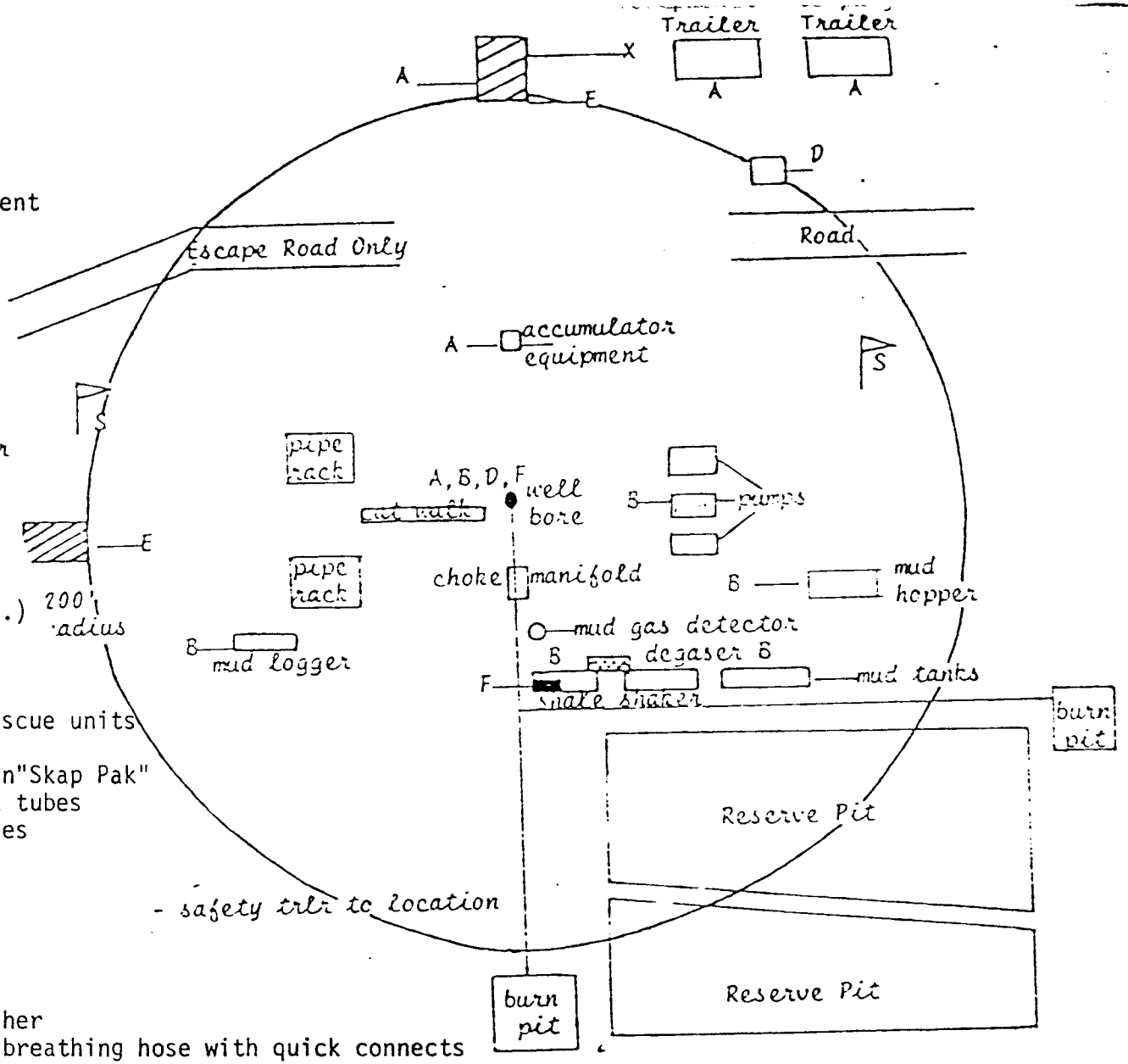
South Crawford Mountian #1-35

PALS,Inc. Recomends the following Safety equipment for the above location, which will Comply with U.S.G.S. (NTL-10).

1-- Standard Safety trailer w/300 cf Cylinders of grade "D" (OSHA) Federal, breathing air and high pressure hardware including, Refill hose and low pressure Alarm.
1-- Fire Blanket
1-- 36 Unit First-Aid kit
1-- Emergency Eye Wash Station
1-- Emergency Evacuation Stretcher
1-- 20 LB. (A,B,C) Fire Extinguisher
5-- Scott 30 Min (45CF) NIOSH Approved Rescue Back Pack
2-- Spare (45CF) air cylinders for back packs
9-- Scott 5 min. (7cf) SCBA W/ workline attachment
6-- Emergency Egress packs (Survivair or Robertshaw)
1--Oxygen resusitator (15cf Capacity)
2-- Wind Socks W/ Frames and 20 ft. Poles
1-- Hand Held H2S Gas dector and photometric tubes
1-- Large Location Warning sign and Condition Flags
2-- Caution approach Signs
2-- Danger Area approach Signs
2-- Extra Large briefing- area Signs
1-- Electronic H2S Monitor
All nessessary 1/2 and 1/4th inch low pressure hose and custom manifolds as required for the specific Rigup.

2--Ventilation Fan for substructure ventiliation
1-- Flare Gun

Recomended locations of Safety Equipment
for Marathon Oil Company's
South Crawford Mountian # 1-35
Rich county Utah.



X - 1-Resusitator
X - 1- Safety Trailer W/ 8 300 (cu.ft.) bottlesand breathing manifold
X - 1- 30-Min rescue unit
X - 5- 30 min rescue units
X - 2- Spare 45 cu ft. bottles for rescue units
B - 6- 5 Min. escape units
* - 9- Hose line work units with 7 min"Skap Pak"
* - 1- Hand held H2S gas detector and tubes
S - 2- Wind Socks and frames with poles
X - 1- 36 unit first-Aid kit
X - 1- Fire blanket
X - 1- Folding stretcher
D - 2- H2S location warning signs
E - 2- Briefing area signs
X - 1- Flare gun with Shells
X - 1- 20 LB. (A,B,C) Fire extinguisher
500 ft. of 1/2 and 1/4th inch breathing hose with quick connects
F - 1- 4 channel electronic,continual H2S Monitor with lights and Siren

V - 1- ventilation Fan (Bug Blower) to be located in Substructure
* (RIG FLOOR)

FIGURE # 2

3400 W. Yellowstone
P. O. Box 2652
Casper, Wyoming 82602

(307) 266-1616

PALS, INC.
H_2S SAFETY EQUIPMENT

Williston, North Dakota
(701) 572-7222

Evanston, Wyoming
(307) 789-4013

A HYDROGEN SULFIDE SAFETY CONTENGENCY PROGRAM

FOR

MARATHON OIL COMPANY
SOUTH CRAWFORD MOUNTAIN #135

A DRILLING CONTINGENCY PLAN FOR

MARATHON OIL COMPANY

SOUTH CRAWFORD MOUNTAIN #135

SECTION 35 TOWNSHIP 10-N RANGE 7-6

RICH COUNTY UTAH

This plan provides for personnel safety programs, precautionary measures, safety equipment and emergency procedures, and sets forth responsibilities and duties pertaining to drilling in a Sour Gas Area.

To be effective, the plan requires the co-operation and effort of each person participating in the drilling of an H2S well. Each person must know his responsibilities and duties in regard to normal drilling operations and emergency and safety procedures. He should thoroughly understand and be able to use in a moments notice, all safety equipment while performing his normal duties if the circumstance is required. He should therefore familiarize himself with the location of all safety equipment and see that his equipment is properly stored, easily accessible at all times, and routinely maintained.

The Operator, and the Drilling Contractor intend to make every effort to provide adequate safegaurds against harm to persons on the rig and in the immediate vicinity from the effects of hydrogen sulfide which may, under emergency conditions be released to the atmosphere. However, the initiative must rest with the individual in utilizing the safeguard provided. The ideas and suggestions of each individual involved in the drilling of these wells are highly welcomed and are an asset for providing the safest working conditions possible.

The Drilling Foreman is required to enforce these procedures. They are set up for your safety and the safety of all others.

IN COMPLIANCE WITH NTL-10 USGS

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OPERATING PROCEDURES

GENERAL

Before this H2S Contingency Plan becomes operational, the Drilling Contractor's personnel, necessary service company personnel, and operators personnel shall be thoroughly trained in the use of breathing equipment, emergency procedures, responsibilities, and first aid. The Operator shall keep a list of all personnel who have been through the special training programs on the drill site.

All personnel shall be given a copy of the "Danger H2S Safety Equipment and Personal Safety" pamphlet. This report summarizes the steps to be taken during the two conditions under which the well may be drilled. It lists general information about toxic gases, explains the physiological effects of H2S classified operating conditions and informs each reader of his general responsibilities concerning safety equipment and emergency procedures. The Company Drilling Foreman shall keep a list of all persons that have read the report and verify they have read it and understand it thoroughly.

All personnel, without exception, when coming on the drill site must proceed directly to the Company Drilling Foreman for assignment of breathing apparatus and to be assured that he has a breathing apparatus. An Instruction and orientation briefing will also be held, if needed.

Upon coming on the drill site, each person shall also pick up a copy of the "Danger H2S Safety Equipment and Personal Safety" and verify that he has read it by signing the last page. The signed page should be forwarded to the Company Drilling Foreman, or his designated Representative.

PRIOR TO DRILLING OUT OF THE INTERMEDIATE CASING

A list of emergency stations and phone numbers of personnel to be contacted will be sent to the rig and should be posted at the following places:

1. Company Drilling Foreman's Office
2. Drilling Contractor's Toolpush Office

PRIOR TO DRILLING OUT OF THE INTERMEDIATE CASING

All safety equipment and H2S related hardware must be set up as required by the Company Operating the Well. (Such as, Location of Briefing Areas, Breathing Equipment, ets.) All Safety Equipment must be inspected routinely paying particular attention to resuscitators and breathing air facilities. Watch out for leaks resulting in frequent bleeding from breathing the air bottles.

PROCEDURE PROGRAM

SAFETY PROGRAM

A. DRILL SITE

1. The drilling rig will be located to allow prevailing winds to blow across the rig toward the reserve pit.

2. Brief stations will be provided with a safety equipment trailer at one or more stations. Personnel will assemble at the most upwind station under alarm conditions, or when so ordered by the Drilling Foreman or the Safety Representative. A wind sock or streamer will be anchored to the trailer.

   A second streamer will be anchored at the end of the catwalk on a pole about 30' high so as to be in easy view of the rig floor and visible at night.

   A separate supply of air cylinders must be located at the opposite side of location than the Safety Unit.

3. Warning signs will be posted on the access road to the location. "NO SMOKING" signs will be posted.

4. One automatic H2S monitor will be provided by the Safety company and the detector will be at the shale shaker. Another automatic detector will be on the rig floor monitoring either on the rig floor or in the logging unit. Should the alarm be shut off to silence the siren, the blinker light must continue to warn of H2S presence. The safety representative will continuously monitor the detector and will reactivate the alarm if H2S concentrations increase to a dangerous level.

5. An escape road will be provided. It is to be used only in an emergency.

6. Do not permit sleeping in cars on location. Maintain a parking area remote from the location preferable on the predominate upwind side of the site.

7. Explosion proof electric fans (bug blowers) will be positioned to insure adequate circulation at all critical locations.

8. Commercial telephone service will be provided, if available.

9. A rig intercommunication system will be provided.

10. A gas trap, choke manifold and degasser will be installed.

11. A kill line, securely anchored and of ample strength will be laid to the wellhead from a safe location. This line is to be used only in an emergency.

B. GENERAL

1. A safety advisor will be available. It will be his duty to conduct safety meetings and training sessions and to be certain all safety equipment needed is installed and operative.

2. A Drilling Foreman and a Contractor's Foreman will be required on location and awake at all times. The Drilling Foreman on duty will have complete charge of the rig operation and will take whatever action is deemed necessary to insure personnel safety, to protect the well, and to prevent property damage.

3. A mud engineer will be on location at all times when drilling at the depth H2S may be expected.

H2S EMERGENCY PROCEDURES

The emergency procedures outlined in this section will be implemented under the following operating conditions:

CONDITION: EXTREME DANGER TO LIFE

If, at any time as much as 10 ppm of H2S is detected, the following steps shall be taken.

1. Driller shall shut down mud pumps and put his mask on.

2. The following personnel shall immediately put on their breathing equipment with the mask.

   a. All personnel on the rig floor
   b. All personnel at the mud pits, and
   c. All personnel required to work below and down wind of rig floor.

3. Notify the Company Drilling Foreman and the Toolpusher that you have H2S on your monitoring system.

4. The mud engineer shall run sulfide determination on the flowing mud.

5. Immediately begin to ascertain the source of the H2S and take steps to suppress the H2S. Drilling will not proceed until the source is determined and the well is circulated. Rig floor and mud pit personnel will keep breathing equipment on while monitoring this circulation.

6. The Supervisors shall make sure all non-essential personnel are out of the potential danger area, mud pit area, mud shack, ets. All persons who remain in potential danger area must utilize the "Buddy System".

7. Have all personnel check their safety equipment to see that it is working properly and in proper location.

8. Check all gas monitoring devices and increase gas monitoring activities with the portable hand operated H2S and Gas Detector Units.

DO NOT PANIC

The Company Drilling Foreman will assess the situation and assign duties to each person to bring the situation under control.

EMERGENCY PROCEDURES AT THE DRILLING RIG

When the H2S monitors activate the siren and blinker light, toxic gas is present.

DO NOT PANIC

1. Put on your gas mask!
2. Render assistance!
3. Follow instructions!

DO NOT PANIC

The Company Drilling Foreman will assess the situation, outline a control program and assign duties.

All work done after H2S is known to be present will be based upon the assessment of this situation.

IGNITING THE WELL

A. RESPONSIBILITY

1. The decision to ignite the well is the responsibility of the Company Drilling Foreman. In his absence incapacity, the Contractor's Foreman will assume all responsibility in their absence or incapacity, the contract driller will be in charge.

2. The decision to ignite the well is to be made as a last resort when it is clear, that.....

   a. There is a definite threat to Human life and Machinery

   b. There is no hope of containing the well under prevailing conditions.

   c. Time and circumstances permitting an attempt will be made to notify the area office. If human life is threatened the decision must not be delayed.

B. INSTRUCTIONS FOR IGNITING THE WELL

1. Two people are required for the initial igniting procedure. Both men will wear self-contained breathing units. Each man will have a retrieval rope around his waist. One man is responsible for checking the atmosphere for explosive gases with an Explosimeter.

The other is responsible for lighting the well. Keep personnel not assigned special duties within the "Safe Briefing Area". Those in the "Safe Briefing Area" will be alert to the needs of the two men assigned to ignite the well. Should either of these men be overcome by fumes, they will immediately pull him to safety by the retrieval ropes.

2. The primary method for igniting the well is a 12 gauge meteortype flare gun. It has a range of approximately 500 feet. If this method fails or well conditions are such that a safer of better method is apparent, then the alternate should be used.

3. If the well is ignited, the burning hydrogen sulfide will be converted to sulfur dioxide which is also poisonous. Therefore,

   DO NOT ASSUME THAT THE AREA IS SAFE AFTER THE GAS IS IGNITED.

   CONTINUE TO OBSERVE EMERGENCY PROCEDURES AND FOLLOW THE INSTRUCTIONS OF SUPERVISORS.

SAFETY EQUIPMENT FOR COMPLIANCE WITH NTL-10

Personal protective equipment must be provided and used. Men who are expected to use respiratory equipment in an area where an emergency would require this protection will be carefully instructed in the proper use and told why the equipment is being used. Careful attention will be given the most minute details in order to avoid possible misuse of the equipment during periods of extreme stress.

Self-contained breathing apparatus provides complete respiratory and eye protection in any concentration of toxic gases and under any condition of oxygen deficiency. The wearer is independent of the surrounding atmosphere because he is breathing with a system admitting no outside air. It consists of a full face mask, corrugated rubber breathing tube, demand regulator, air supply cylinder, and harness. Pure breathing air from the high pressure (2200 psi) supply cylinder flow to the mask automatically through the demand regulator which reduces the pressure to a breathing level. Upon inhalation, air flows into the mask at a rate precisely regulated to the user's demand. Upon exhalation, the flow to the mask stops, and the exhaled breath passes through a valve in the face piece to the surrounding atmosphere. An audible alarm can be added to the apparatus, between the 45 cubic foot cylinder and the high pressure hose, which rings at 400 psi and warns the wearer to leave the contaminated area for a new cylinder of air.

To enable men to work in toxic atmosphere for prolonged periods of time, a hose line with quick disconnect can be attached to the unit connecting it to a 300 cubic foot air cylinder. The installation of a hose bank series manifold on the rig floor connected to a series of 300 cubic foot bottles at a remote location allows both rig crew members and supervisors to remain with "mask on" for an extended period. By having two banks of bottles feeding the floor alternately bottles can be replaced and the time can be extended indefinitely.

The derrickman is provided with a mask unit and 10 minute escape cylinder connected to one or more 300 cubic foot air cylinders through a quick disconnect "T". If evacuation via trolley or ladder becomes necessary, he will also have a full bottle of air in his own self-contained breathing apparatus.

All respiratory protective equipment, when not in use, should be stored in a clean, cool, dry place, and out of direct sunlight to retard the deterioration of rubber parts. After each use the mask assembly will be scrubbed with soap and water, rinsed thoroughly, and dried. Disinfecting may be accomplished through the use of a Pine Sol compound prior to rinsing. Air cylinders can be recharged to full condition from a cascade system of three 300 cubic foot cylinders, connecting pigtails, and charging hose assembly. Men in each crew will be trained as to the proper techniques of bottle filling.

The primary piece of equipment to be utilized should anyone become overcome by Hydrogen Sulfide is the resuscitator. It automatically performs artificial respiration with a gental predetermined pressure on inhalation and without suction on exhalation. This most nearly represents normal respiration and has been selected by medical authorities as the preferred method in restoring breathing. When asphyxia occurs, the victim is removed to fresh air and immediately given artificial respiration. As quickly as available, the resuscitator is then applied. In order to insure readiness, the bottle of oxygen will be checked at regular intervals and an extra tank kept on hand.

Hand operated bellows type detectors incorporating a bulb, detector tube, and a moveable scale will be given more accurate readings of Hydrogen Sulfide. The bulb draws air to be tested through the detector tube to react with lead acetatesilica gel granules. Presence of Hydrogen Sulfide in the air sample is shown by the development of a dark brown stain on the granules. The scale reading opposite the end of the stain is the concentration of Hydrogen Sulfide. By changing the type of detector tube used, this detector may also be used for Sulfur Dioxide (SO2) dectection when Hydrogne Sulfide H2S is being burned in the flare area.

Provision must be made for the storage of all safety equipment. As evident by previous discussion, rig crew equipment must be stored in an available location on the rig floor so that no one engaged in normal work routine is more than "one breath away" from a mask.

OPERATING CONDITIONS

GENERAL

Drilling Operations in known H2S zones, or when H2S has been detected in the drilling fluid, will be performed under the two following described conditions:

CONDITION 1: POTENTIAL DANGER

Warning Flags	None
Alarms	Less than 5 ppm - None
Characterized By:	Drilling operations under control. Drilling operations in zones that may contain Hydrogen Sulfide. This condition will be in effect continuously from the intermediate casing unless it is necessary to go to Condition 11. This condition remains in effect until H2S is detected.
General Action:	1. Be alert for condition change. 2. Check all safety equipment and monitors for proper functioning. Keep equipment available and working. 3. Performs all drills for familiarization and proficiency.

CONDITION 11: EXTREME DANGER TO LIFE

Alarm	Continuous alarm light actuates at 10 ppm
Characterized by:	Critical well operations: well control problems and in the extreme, loss of well control poisonous gases may be present at or above threshold level (as defined under Toxicity of various gases).
General Action	1. Personnel go and stay in the "SAFE BRIEFING AREA", if not specifically assigned to correct or control the situation. All personnel not assigned to the well control operations will stand in the "SAFE BRIEFING AREA". 2. Follow the instructions of the Company Drilling Foreman and Drilling Contractor Toolpush.

General Action: Continued

3. The Company Drilling Foreman and the Toolpusher will initiate emergency action as provided in the Contingency Plan as appropriate.

4. The Drilling Foreman and Toolpusher will jointly determine if ignition of the well is deemed necessary as outlined under "Abandoning Location & Igniting the Well" and will conduct any necessary operations with an absolute minimum of persons. All persons working in the hazard area will wear self-contained breathing apparatus. All other personnel will evacuate as directed.

5. If the well is ignited, the burning Hydrogen Sulfide will be converted to Sulfur Dioxide which is also poisonous. Therefore, do not assume that the area is safe after the gas is ignited. Continue to observe emergency procedure and follow instructions of supervisors.

6. The Drilling Foreman and Safety Supervisor along with the assistance of the Toolpusher will be responsible for notifying any residents living within the two mile radius of well bore.

7. Roads within the two mile radius will be blocked after the company and drilling personnel have determined a danger to human life. Raods will be blocked by trained company personnel with the assistance of local authorities.

CONSIDERATIONS DURING THE DRILLING OF A HYDROGEN SULFIDE WELL

CONSIDERATIONS DURING THE DRILLING OF A SOUR GAS WELL

INDRODUCTION

This memorandum is intended to familiarize you with the conditions that can exist when drilling a well to formations that contain H2S and the precautions Drilling Services have taken in designing the well program and safety program to provide maximum safety.

You should become familiar with all safety equipment on the rig, its use, and availability. The windsocks and windstreamers are provided to know which direction the wind is blowing so that the "SAFE BRIEFING AREA" can be easily defined. You should become wind conscious and observe these wind direction indicators. All persons aboard the rig will receive instructions on the use of safety equipment and on what to do during an H2S emergency. The well will be monitored with H2S continuous monitoring-type detectors.

Drilling operations in known H2S zones, or when H2S has been detected in the drilling fluid or atmosphere, will be performed under three possible conditions:

CONDITION 1: POTENTIAL DANGER

Warning Sign	None
Alarm	Less that 5 ppm - None 5 ppm - one amber light. Continuous horn blast for one minute.
Characterized By:	Drilling operations under control. Routine drilling operations in zones that may contain Hydrogen Sulfide. This condition will be in effect continuously unless it is necessary to go to Condition 11. This condition remains in effect until H2S is detected and as long as the concentration does not exceed 10 ppm.
General Action:	1. Be alert for a condition change. 2. Check safety equipment for proper functioning. Keep it available.

CONDITION 11: EXTREME DANGER TO LIFE

Alarm	Light flashing and continuous horn blast for one minute.
Characterized By:	Critical well operations, well control problems, and in the extreme, loss or well control. Poisonous gases may be present at or above threshold levels (as defined under Toxicity of Various Gases).

General Actions:

1. All personnel shall put on their protective breathing equipment. All non-working personnel shall proceed to the safer breathing area. All personnel not required in the well control operations may be evacuated.

2. Follow the instructions of the Drilling Foreman and Supervisors.

3. The Drilling Foreman will initiate emergency action as provided in the Contingency Plan as appropriate.

4. The Drilling Foreman, after consultation with the Drilling Services, will ignite the well if deemed necessary as outlined in the Contigency Plan under "Igniting the Well". Supervisors will conduct any necessary operation with an absolute minimum of personnel. All persons will wear a self- contained breathing apparatus and will restrict their movements to those directed by the Drilling Foreman and Supervisors.

5. If the well is ignited, the burning Hydrogen Sulfide will be converted to Sulphur Dioxide which is also poisonous. Therefore, DO NOT ASSUME THAT THE AREA IS SAFE AFTER THE GAS IS IGNITED. CONTINUE TO OBSERVE EMERGENCY PROCEDURES AND FOLLOW THE INSTRUCTIONS OF THE DRILLING FOREMAN AND SUPERVISORS.

During an emergency, persons should utilize the "Buddy System" to prevent anyone from entering a gas area alone whether he is using breathing equipment or not. If a person is overcome by H2S, do not attempt to rescue him without a "Buddy" standing by. A retrieval rope would be used before entering a contaminated area. If you are wearing a mask, do not remove it until you are absolutely certain the air is safe to breath. If a sudden gas release occurs without warning, you should:

1. Hold you breath and rapidly evacuate the area containing the H2S. Move upwind, if possible.

2. Put on a mask.

3. Help anyone who may be affected by gas. NOTE: Put on your breathing equipment before helping anyone overcome by H2S. Then take him to a safe area and administer oxygen.

4. Evacuate quickly to the "SAFE BRIEFING AREA" to receive instructions from the Drilling Foreman.

5. DO NOT PANIC

The Oil Company intends to keep all formations overbalanced so that no intrusion of gas will occur. However, we have provided plans in the event of an emergency so that we will be able to handle one with a minimum of trouble. If you are on the rig during Operating Conditions 1 &11, it is essential that you follow the instructions of the Supervisors.

Copies of the "H2S Contingency Plan" are available from the Drilling Foreman. This plan sets out precautionary measures, safety equipment, emergency procedures, responsibilities and duties pertaining to the drilling of a sour gas well. All personnel should become familiar with the contents of the plan and afterwards should sign the log in the Chart Room indicating that they have read and do understand the plan. Paricular attention should be paid to the following topics:

1. H2S EMERGENCY PROCEDURE
2. RESPONSIBILITIES AND DUTIES
3. RIG LAYOUT-LOCATION OF BRIEFING AREA, BREATHING EQUIPMENT, ETC.

TOXICITY OF VARIOUS GASES

The Table A lists various gases and the concentrations at which they become dangerous.

PROPERTIES OF GASES

The produced gas will probably be a mixture of carbon dioxide, hydrogen sulfide, and methane.

Carbon dioxide (CO2) is usually considered inert and is commonly used to extinguish fires. It is heavier than air (1.5 times), and CO2 will concentrate in low areas of quiet air. Humans cannot breathe are containing more than 10% CO2 without losing consciousness. Air containing 5% CO2 will cause disorientation in a few minutes. Continued exposure to CO2 after being effected will cause convulsions, coma and respiratory failure.

The threshold limit of CO2 is 5000 ppm. Short-term exposure to 50,000 ppm (5%) is reasonable. This gas is colorless and odorless and can be tolerated in relatively high concentration.

HYDROGEN SULFIDE

Although the slightest presence of H2S in the air is normally detectable by its characteristic "rotten egg" odor, it is dangerous to rely on the odor as a means of detecting excessive concentrations because the sense of smell is rapidly lost,

allowing lethal concentrations to be accumulated without warning. The Table B indicates the poisonous nature of hydrogen sulfide, which is more toxic than carbon monoxide.

Hydrogen Sulfide itself is a colorless and transparent gas and is flammable. It is heavier than air, and hence, may accumulate in low places.

SULPHUR DIOXIDE

Sulphur Dioxide (SO2) is produced during the burning of H2S. Although SO2 is heavier than air, it will be picked up by a breeze and carried downwind at elevated temperatures. While sulphur dioxide is extremely irritating to the eyes and mucous membranes of the upper respiratory tract, it has exceptionally good warning powers in this respect. The Table C indicates the toxic nature of the gas.

Sulphur Dioxide is a colorless, transparent gas and is non-flammable.

BUDDY SYSTEM

In this manual, reference is made to the "Buddy System". This means that personnel should watch out for each other and, when possible, should work in pairs. While Dirlling Operations have made extensive preparations for your safety, you should be aware of first aid procedures in the event someone else becomes careless. First aid for H2S victims is based primarily on rescue breathing and include:

A. Move victim for fresh air at once. Don't jeopardize your safety, wear a mask then get a mask on the victim.

B. If the victim is unconscious and not breathing - take him at once to the Safe Briefing Area and apply mouth-to-mouth artificial respiration without interruption until a resuscitator is available. Use the resuscitator until normal breathing is restored. Symptoms may pass off rapidly, however, keep the victim warm and take him for medical attention.

BREATHING EQUIPMENT DRILLS FOR ON SITE PERSONNEL

NOTE: This drill shall include the following personnel:

1. Rig Crew and Roustabout
2. Pusher and Roustabouts assigned to essential duty during an emergency
3. Mud Logger
4. Mud Engineer
5. Drilling Services Toolpusher
6. Oil Company's Foreman

A drill, with breathing equipment, will be conducted once a week with each crew, including the Mud Logger and Mud Engineer. The purpose of the drill is to instruct the crews in the operation and use of breathing and H2S related emergency equipment and to allow them to become acquainted with using the equipment under working conditions. The crews should be trained to put on breathing equipment within one minute after H2S emergency has been alerted.

The following procedure shall be used for the first few weekly drills until the Drilling Foreman is satisfied that the crews are proficient with the equipment. (Note: This drill will be made only while the bit is inside the casing. It is to be conducted as outlined under "Emergency Procedures - Condition 111 of the Contigency Plan").

1. All personnel on the rig shall be informed that a drill will be given.

2. A qualified person shall initiate the drill by manually activating the alarm system for Condition 111.

3. The Driller shall shut down the mud pumps and continue to rotate the drill pipe while all crew personnel put on their breathing equipment. The Mud Logger, Mud Engineer, Toolpusher, and Oil Company Personnel should put on their breathing equipment. The Driller should put on his breathing equipment and connect to the supplies air from the cascaded air supply.

4. Once breathing equipment is on, the Driller shall pick up the Kelly and check for flow.

5. The Driller shall proceed as if the well was flowing; simulate well shut-in procedures as shown on the well control procedure chart of Contingency Plan.

6. The Mud Logger shall continue to monitor his equipment with his breathing equipment.

7. The Mud Engineer shall perform a test on the flowline for mud weight and funnel viscosity and run a GGT Test on the mud to check to determine the sulfide concentration. This part of the drill is important because we want to make it a standard practice that a GGT Test be run every time anything unusual happens.

8. During the drill,the Drilling Foreman and Toolpusher will observe the work and make sure that everyone is using his equipment properly.

Note: 1. Once the Drilling Foreman is satisfied that personnel are proficient with the breathing equipment, and H2S emergency procedure, he may conduct a weekly minimal drill where the breathing equipment is only put on and checked for operation.

Note: 2. A record of attendance shall be kept for these weekly drills and shall also be included in the morning drill report.

BREATHING EQUIPMENT DRILLS AND TRAINING SESSIONS FOR OFF-DUTY PERSONNEL

NOTE: To Include: All personnel on the rig, except on-duty rig crew, Mud Logger, Mud Engineer, and Toolpusher.

An H2S drill and training session shall be given once a week to all off duty personnel. This training will be conducted to instruct personnel in the operation and use of breathing and H2S related emergency equipment and to review various operating procedures in the "H2S Contingency Plan".

Initial drills shall include:

1. General information about the breathing apparatus which shall include length of time it can be worn, warning signals when pressure is depleting, packing and storage procedures, etc.

2. How to put the mask on and test for leaks around face and hose connection.

Initially, these drills shall be conducted as often as necessary to acquaint the crews with the equipment. After the Drilling Foreman is convinced that all personnel are trained, a weekly drill shall be conducted. This drill may be initiated at any time. Prior to the drill, the Rig Crew on duty must be informed that it is only a practice drill. The drill will be initiated by the "Condition II" warning signal. At this time, all off duty personnel will immediately get their assigned gas masks on, and report to the "Safe Briefing Area" , which will depend on the wind direction. Personnel should be trained to report to the "Safe Briefing Area" with their emergency equipment within five minutes after the alarm is sounded.

A weekly training and information session shall be conducted after the drill to answer any H2S related questions and to cover one or more of the following:

a. Condition I and II alert and steps to be taken by all personnel.

b. Make personnel conscious of the importance of wind direction when dealing with H2S.

c. Proper use of all types of breathing equipment.

d. Proper use of oxygen resuscitators.

e. Proper use of H2S detectors.

f. The "Buddy System" and the procedure for rescuing a person overcome by H2S.

g. Resposibilities and duties.

h. Location of H2S Safety Equipment.

i. Other parts of the "H2S Contingency Plan" that should be reviewed.

NOTE: A record of attendance shall be kept for weekly drill and training sessions. These drills and training sessions shall also be included in the morning drill reports.

TABLE A

TOXICITY OF VARIOUS GASES

COMMON NAME	CHEMICAL FORMULA	SPECIFIC GRAVITY AIR 1	THRESHOLD LIMIT 1	HAZARDOUS LIMIT	LETHAL CONCEN-TRATION
Hydrogen Cyanide	HCN	0.94	10 ppm	150 ppm/ 1 hour	300 ppm
Hydrogen Sulfide	H2S	1.189	20 ppm	250 ppm/ 1 hour	600 ppm
Sulfur Dioxide	SO2	2.21	5 ppm	----	1000 ppm
Chlorine	CL2	2.45	1 ppm	4 ppm/ 1 hour	1000 ppm
Carbon Monoxide	CO	9.97	50 ppm	400 ppm/ 1 hour	1000 ppm
Carbon Dioxide	CO2	1.52	5000 ppm	5%	10%
Methane	CH4	0.55	9000 ppm (9%)	Combustible above 5% in air	

1. Threshold - Concentration at which it is believed that all workers may repeatedly be exposed, day after day, without adverse effect.

2. Hazardous - Concentration that may cause death.

3. Lethal - Concentration that will cause death with short-term exposure.

TABLE B

HYDROGEN SULFIDE

%	PPM	GR/100 SCF	EFFECTS
0.001	10	.65	Obvious and unpleasant odor
0.002	20	1.30	Safe for 8 hours exposure
0.01	100	6.48	Kills smell in 3 to 15 minutes; may sting eyes and throat
0.02	200	12.96	Kills smell shortly; stings eyes and throat
0.05	500	32.96	Dizziness; breathing ceases in a few minutes; needs prompt artificial respiration
0.07	700	45.36	Unconscious quickly; death will result if not rescued
0.1	1000	64.80	Unconscious at once; followed by death within minutes

TABLE C

SULPHUR DIOXIDE

%	PPM	EFFECTS
.0005	3 to 5	Pungent odor - normally a person can detect SO2 in this range
.001	10	Safe for 8 hours exposure
.0012	12	Throat irritation, coughing, constriction of the chest, tearing and smarting of eyes
.015	150	So irritating that it can only be endured a few minutes.
.05	500	Causes a sense of suffocation, even with first breath.

EMERGENCY NUMBERS

Evanston, Wyoming - Area Code 307

Hospital - 1-789-3636

Police Department - 1-789-2141

Highway Department - 1-789-2559

Fire Department - 1-789-3013

Sheriffs Department - 1-789-2331

Unita Ambulance Service - 1-789-9032

Air Ambulance - 801-350-1100 or
801-350-6149

Salt Lake City
University Medical Center - 1-801-581-2291

Hospital - Brigham City - 1-801-734-9471

(If you use Brigham City Hospital notify Emergency Room)
1-801-399-2870

MARATHON OIL COMPANY EMERGENCY NUMBERS

	OFFICE	HOME
Dale Caddy	307-235-2511	307-235-0571
James Wirth	307-235-2511	307-265-7695
Ken A. Toma	307-235-2511	307-235-2511
Ray Rosenthal	307-235-2511	307-235-2600
Tom Fickland		307-265-0845
Mike Handson		307-234-9112

** FILE NOTATIONS **

DATE: May 21, 1980

OPERATOR: Marathon Oil Company

WELL NO: South Crawford Mountain #1-35

Location: Sec. 35 T. 10N R. 7E County: Rich

File Prepared: ✓ Entered on N.I.D: ✓

Card Indexed: ✓ Completion Sheet: ✓

API Number 43-033-30026

CHECKED BY:

Petroleum Engineer: M. J. Minder 6-23-80
~~Held for confirmation on proposed location (called W. West 5-28-80)~~
~~Approved providing Marathon complies with 660' radius~~

Director:

Administrative Aide: C-3: too close to qtr-qtr line

APPROVAL LETTER:

Bond Required: ☐ Survey Plat Required: ☐

Order No. ____ O.K. Rule C-3 ☐

Rule C-3(c), Topographic Exception - company owns or controls acreage within a 660' radius of proposed site ✓

Lease Designation Fed Plotted on Map ✓

Approval Letter Written ✓ wtm

Hot Line ✓ P.I. ✓

#2 plus 660' statement

Form 9-331 C
(May 1963)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DUPLICATE COPY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL: OIL WELL [ ] GAS WELL [X] OTHER — SINGLE ZONE [ ] MULTIPLE ZONE [ ]

2. NAME OF OPERATOR: Marathon Oil Company

3. ADDRESS OF OPERATOR: P.O. Box 2659, Casper, WY 82602

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 2,548' FSL & 512' FEL
At proposed prod. zone:

5. LEASE DESIGNATION AND SERIAL NO.: U-25097

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: South Crawford Mountain

9. WELL NO.: 1-35

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 35, T10N, R7E

12. COUNTY OR PARISH: Rich

13. STATE: Utah

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 3-1/2 miles Northeast and 1-1/2 miles North of Woodruff, UT

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 512'

16. NO. OF ACRES IN LEASE: 2,461.04

17. NO. OF ACRES ASSIGNED TO THIS WELL: 645.04

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: None

19. PROPOSED DEPTH: 6,000'

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 7,244' GL

22. APPROX. DATE WORK WILL START*: June 1, 1980

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
Please see Item #4 of 10-Point Program for complete casing and cementing program				

Please see the following attachments:

1. Surveyor's Plat
2. Ten-Point Drilling Program
3. BOP Schematic
4. Thirteen-Point Surface Plan
5. Maps & Diagrams

State of Utah, Department of Natural Resources
Division of Oil, Gas, and Mining
1588 West North Temple
Salt Lake City, Utah 84116

RECEIVED
JUN 12 1980
DIVISION OF
OIL, GAS & MINING

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED Dale Coddy TITLE District Operations Manager DATE May 14, 1980

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY (Orig. Sgd.) R. A. Henricks TITLE FOR E. W. GUYNN DISTRICT ENGINEER DATE JUN 11 1980

CONDITIONS OF APPROVAL, IF ANY:

CONDITIONS OF APPROVAL ATTACHED TO OPERATOR'S COPY

*See Instructions On Reverse Side

NOTICE OF APPROVAL

FLARING OR VENTING OF GAS IS SUBJECT TO NTL 4-A DATED 1/1/80

State O&G

Oil and Gas Drilling EA #440-80

United States Department of the Interior
Geological Survey
2000 Administration Bldg.
1745 West 1700 South
Salt Lake City, Utah 84104

Usual Environmental Analysis

Date: May 31, 1980

Operator: Marathon Oil Company Project or Well Name and No.: 1-35

Location: 2548' FSL & 512' FEL Sec.: 35 T.: 10N R.: 7E

County Rich State: Utah Field/Unit: Wildcat

Lease No.: U- 25097 Permit No.: N/A

Joint Field Inspection Date: May 22, 1980

Prepared By: George Diwachak

Field Inspection Participants, Titles and Organizations:

George Diwachak	Environmental Scientist - USGS
Dan Washington	Surface Protection Specialist - BLM
Kenn Frye	Geologist - BLM
Jack Brown	Wildlife Biologist - BLM
Walt West	Gov't. Compliance - Marathon
S.Degenfelder & C. Potter	Landmen - Marathon
Ken Thoma	Drilling Supt. - Marathon
Mac Hansen	Drilling Foreman - Marathon
Harvey Lundershausen	Owner - Opal Construction

Related Environmental Analyses and References.

rk/6/2/80

Noted - G. Diwachak

EA # 440-80

DISCRIPTION OF PROPOSED ACTION

Proposed Action:

1. Location State Utah

County: Rich

2548' FSL, 512' FEL NE 1/4 SE 1/4

Section 35, T1ON, R7E , SLM

2. Surface Ownership Location Public

Access Road: Public and State

Status of
Reclamation Agreements

A portion of the access road crosses State of Utah land in Section 36, T 1ON, R 7E, as a result of the road change during the onsite inspection. See attached Sundry Notice for a description of existing and new roads to be used. An agreement with the State is necessary prior to APD approval.

3. Dates APD Filed: May 16 1980.

APD Technically Complete. May 21, 1980.

APD Administratively Complete:

4. Project Time Frame

Starting Date: immediately upon approval

Duration of Drilling activities: 90 days.

A period of 30 to 60 days is normally necessary to complete a well for production if hydrocarbons are discovered. If a dry hole is drilled, recontouring and reseeding would normally occur within one year, revegetation or restoration may take several years. If the well is a producer, an indefinite period of time would occur between completion and rehabilitation.

5. Related actions of other federal or state agencies and Indian tribes:

The State of Utah must grant permission to cross State lands in Section 36, T 1ON, R 7E with upgraded existing and new access roads.

6. Nearby pending actions which may affect or be affected by the proposed action.

   None known

7. Status of variance requests:

   Exception to 30 CFR, 221.20 - 200' Rule) has been filed by the operator.

The following elements of the proposed action would/could result in environmental impacts:

1. A drill pad 230' wide x 320' long including a reserve pit 75' x 175' would be constructed. Approximately 3.0 miles of new access road, averaging 16' driving surtface, would be constructed and approximately 2.5 miles of existing trail would be improved to 16'of driving surface from a maintained road. 10 acres of disturbed surface would be associated with the project. Maximum disturbed width of access road should be limited to 25'.

   Due to local geologic and topograhic conditions, pad and pit construction will require blasting. The pit would most likely be constructed in bedrock. Pad and road construction is expected to last 30 days.

   Access road grades approach 10-15% for short durations which should not pose problems since the well would be drilled in the dry season. For environmental reasons (visual) the proposed road is the most feasible route to the location. Adequate drainage systems and gravelling may be necessary to avoid access problems due to grades.

2. Drilling

3. Waste disposal - Trash will be confined to a burn pit and buried. If conditions do not warrant trash pit construction, trash should be confined to a trash cage and removed to a sanitary landfill.
4. Traffic would consist of water trucks, support vehicles, and contractural service vehicles during drilling. If a producer is discovered, traffic would decrease to maintenance and periodic support vehicles.

5. Water requirements - A water well is planned. If the well is successful a temporary pipeline (requiring application and field approval) may be constructed to the Bear River.

6. Completion

7. Production - All production facilities would be constructed on disturbed pad surfaces as outlined in Diagram B of APD. However, considering the visual impacts posed by the well location, the design of well pad production facilities should be decided upon by USGS, BLM, and Operator after the well is drilled.

8. Transportation of hydrocarbons - Pipeline facilities off the well pad were not requested in the APD and will require application and approval.

9. Hydrogen Sulfide gas may be encountered during drilling.

Details of the proposed action are described in the Application for Permit to Drill and a Sundry Notice dated May 28, 1980.

Although not an optimum location, the proposed drill pad is situated in the most feasable spot on Lease No. U-25097.

The access road was changed per the attached Sundry Notice map to reduce grade, reduce visibility from Woodruff, Utah and State Highway 16, to avoid load limititations on the county road from Woodruff and eliminate cattle guard replacement.

Environmental Considerations of the Proposed Action:

Regional Setting/Topography: The location is situated 4 miles northeast of Woodruff, Utah in the Bear River drainage on a ridgetop of the southern end of the Crawford Mountains. Steep ridgelines and ledges slope to the west while the eastern side consist of sloping valleys which will allow relatively safe and easy access to the location. Road grades should not exceed 8-15%.

PARAMETER

A. Geology

1. Other Local Mineral Resources to be Protected: None

Information Source: Mineral Evaluation Report

2. Hazards:

a. Land Stability: Since the location will be constructed for the most part into bedrock, no land stability problems are expected. Pit construction could be hampered by construction in rock and spill potential would be increased. Erection of sediment traps downslope of the pit would reduce the hazard.

Information Source: Field Observation

b. Subsidence: None expected although the withdrawal of fluids could cause subsidence. Lost circulation could be encountered in cavernous limestone zones.

Information Source: Field Observation, Mineral Evaluation Report, "Environmental Geology", Keller.

c. Seismicity: The location is in a region of moderate seismic risk. The operating plan does not account for this.

Information Source: "Geologic Atlas of Rocky Mountain Region"

d. High Pressure Zones/Blowout Prevention. None expected

Information Source APD, Mineral Evaluation Report

B. Soils.

1. Soil Character: Very little soil exists at the location. Topsoil will be necessary for vegetation and may be hauled in from private sources.

Information Source: Field observation, BLM

2. Erosion/Sedimentation. Erosion could be severe on side slopes especially along access road, proper ditching and crowning would reduce erosion/sedimentation. The location itself would not be subject to severe erosion but erosion is probable.

Information Source: Field observation.

C. Air Quality: The location is within a Class II attainment area. Air quality would decrease temporarily from machinery, equipment and vehicle operations and fugitive dust.

Information Source BLM, State of Utah Health Department, Field observation

D. Noise Levels: Ambient noise would increase temporarily from vehicle and equipment operations, affecting wildlife in a distributional sense.

Information Source. Field observation.

E. Water Resources

1. Hydrologic Character

a. Surface Waters. The location drains eastward by non-perenial drainges to the Bear River which flows along the west side of the Crawford Mountains. Some erosion could be expected to the west. If the water well is unsuccessful, a temporary pipeline may be laid to the Bear River requiring application and field approval.

Information Source: Field observation, APD.

b. Ground Waters Fresh groundwater is probable in small quantities in the Brazer Formation. Water of unknown quality may be found in large quantities in cavernous lost circulation zones. A water well will be drilled under state permit No. 54601 (23-3565).

Information Source: Mineral Evaluation Report, Operator

2. Water Quality

a. Surface Waters: Spill potential is high with the reserve pit constructed in bedrock. Most fliud spills would be eastward to non-perennial drainages. Lining the reserve pit with clay materials as a sealer and placement of catch basins or sediment traps downslope of the pit would reduce hazards.

Information Source: Field observation.

b. Ground Waters: Commingling of aquifers is possible. Contamination to ground waters by introduction of drilling fluids is also possible. Lost circulation zones present increased contamination hazards. Casing program design appears to be adequte with maximum protection provided.

Information Source. Field observation, APD.

F. Flora and Fauna

1. Endangered and Threatened Species Determination

Based on the Formal comments received from BLM on May 29, 1980, we determine that there would be no effect on endangered and threatened species and their critical habitat.

2. Flora: Vegetation is predominately a sagebrush-wheatgrass forb biome. Very little vegetation grows along the ridge top. Topsoil hauled in from other sources (private) would increase and expedite revegetation.

Information Source: Field Observation, BLM

3. Fauna: Several species of wildlife inhabit the area (See attached BLM Staff Report). The project area is within a Critical Deer Winter Range. No drilling/completion/workover operations will be permitted between November 15 through May 1.

Information Source: BLM, Field Observation

G. Land Uses

1. General: The surrounding area is used predominantly for grazing. Limited recreation occurs in the area mostly during hunting seasons (deer, sage hens).

Information Source: Field Observation

2. Affected Floodplains and/or Wetlands: N/A

Information Source: Field Observation

3. Roadless/Wilderness Area. N/A

Information Source: BLM

H. Aesthetics: The operation does not blend with local surroundings. The pad location and new access road placement have been designed to reduce visibility from Woodruff, Utah and Utah State Highway 16. The drilling rig and support equipment will be visible and present a temporary visual intrusion. Placement of production facilities out of view from the west and painting any permanent equipment a color to blend with surroundings, and immediate pad restoration (on unused production areas or if well is dry) would reduce visual impacts. A permanent scar to the terrain is possible due to construction into bedrock.

Information Source: APD, Field Observation, BLM

I. Socioeconomics: The effects of one well on local populations and economy would be negligible, however, if field development would result from a major discovery at this location, local economy would increase. Most operational and contruction personnel would commute from Kemmerer and Evanston, Wyoming. Evanston is currently experiencing "boom" growth from nearby hydrocarbon exploration.

Information Source: Field Observation, BLM

J. Cultural Resources Determination: Based on the informal comments received from BLM on June 6, 1980, we determine that there would be no effect on cultural resources.

Information Source: BLM

K. Other: Hydrogen Sulfide (H_2S) gas may be present throughout the planned drilling. An H_2S safety equipment and mud program is included in APD. However, considering the proximity to a population center (4 miles to Woodruff) a complete H_2S Contingency plans should be submitted and approved prior to the spudding of the well. The nearest residents are within 2 miles of the well. Prevailing westerly winds and the nearly 1000 ft. vertical difference between the valley and location reduce the safety hazard to area residents, but do not rule out potential H_2S related accidents. An escape route was discussed at the onsite and should be flagged to the South along the ridge top (opposite direction of access road).

Information Source: Field Observation, NTL-10

L. Adequacy of Restoration Plans: The restoration plan meets the minimum requirements of NTL-6, however they are inadequate for the site involved. Construction into bedrock will limit pad restoration to original contours. The location selected does, however, provide the most readily restorable site in the lease. Topsoil hauled in from other sources would facilitate revegetation.

Information Source: Field Observation, BLM, APD

Alternatives to the Proposed Action:

1. Disapproving the proposed action or no action - If the proposed action is denied, no action would occur, the existing environment would remain in its present state, the lessee/operator would not realize any return on investments and the public would be denied a potential energy source.

2. Approving the project with the recommended stipulations - Under federal oil and gas leasing provisions, the Geological Survey has a responsibility to approve mineral development if the environmental consequences are not too severe or irreversible. Permanent damage to the surface and subsurface would be prevented as much as possible under USGS and Surface Management Agency supervision. Environmental impacts would be mitigated as much as possible.

3. Other -Directional drilling from a pad to the east of the location (off lease) at the base of the Crawford Mountains would substantially reduce environmental impacts, however, the costs involved would make drilling uneconomical at this time.

Adverse Environmental Effects:

1. If approved as proposed:

   a. About 4 acres of vegetation would be removed, increasing and accelerating erosion potential.

   b. Pollution of groundwater systems could occur with the introduction of drilling fluids into the aquifers. The potential for interaquifer leakage and lost circulation is ever-present, depending on the casing program.

   c. Minor air pollution would be induced on a temporary basis due to exhaust emissions from rig engines and support traffic. H_2S potential

   d. The potential for fires, leaks, spills of gas and oil or water exists.

   e. During construction and drilling phases of the operation, noise and dust levels would increase.

   f. Distractions from aesthetics during the lifetime of the project would exist.

   g. Erosion from the site would eventually be carried as sediment in the Bear River. The potential for pollution to local intermittent waterways would exist through leaks and spills.

h. If hydrocarbons would be discovered and produced, further development of the area could be expected to occur, which would result in the extraction of irreplaceable resource, and further negative environmental impacts. These impacts include the cumulative loss of wildlife habitat due to the areas necessary for roads, pipelines, drillsites, and transmission lines. These actions may disrupt wildlife social behavior and force habitat relocation over an extended period of time. In addition, the cumulative effects of non-point erosion become substantial in a developing field, primarily those located near perennial streams where siltation and sedimentation are critical to aquatic life cycles.

i. The potential for the discovery of poisonous H_2S gas poses an extreme safety hazards to drilling personel and area residents.

j. A permanent scar to the ridgetop is possible since the location would be constructed in bedrock.

2. Conditional Approval:

a. All adverse impacts described in section one above would occur, except:

1. Lining the reserve pit and installation of downslope catch basins would reduce spill potential.

2. Avoidance of drilling/completion/workover operations during periods of deer winter range would reduce wildlife disturbances.

3. A complete H_2S Contingency plan would reduce safety hazards to personel and area residents.

4. An escape route would provide additional safety to rig personnel.

5. Immediate restoration, the introduction of topsoil and placement of production facilities away from the west edge of the pad would reduce visual impacts.

Recommended Approval Conditions:

Drilling should be allowed, provided the following mitigative measures are incorporated into the proposed APD and adhered to by the operator:

1. See attached BLM Stipulations.

2. H_2S mud scavanger will be on location throughout drilling.

3. A complete Hydrogen Sulfide (H_2S) Contingency plan, shall be submitted to USGS prior to the spudding of the well. No drilling will be allowed until the plan is approved by USGS.

4. An escape route will be flagged along the ridge top to the south, southwest (opposite access entry to pad).

5. The reserve pit will be lined with an impervious clay material to retain fluids. Installation of catch basins or sediment traps will be constructed on the downslope side of the pit, if necessary for spill prevention.

6. The reserve pit must be allowed to dry completely or fluids removed to an approved dump site prior to backfilling. All pit liners and contaminated soils must be covered with at least 3-4 ft. of fill material.

7. Per BLM recommendations, No drilling/completion/workover operations will be allowed between November 15 through May 1 due to Critical deer winter habitat.

8. If trash pit construction is not feasible, a trash cage shall be used and all trash removed to a sanitary landfill.

9. An agreement with the State of Utah concerning access through Section 36, T. 10N., R. 7E., must be received prior to APD approval.

10. Final approval of production facilities will be decided upon by BLM, USGS, and Marathon after the well is drilled to reduce visual impacts to the west.

Controversial Issues and Conservation Division Response: None

We have considered the proposed action in the preceding pages of this EA and find, based on the analysis of environmental considerations provided therein, no evidence to indicate that it will significantly (40 CFR 1508.27) impact the quality of the human environment.

Determination:

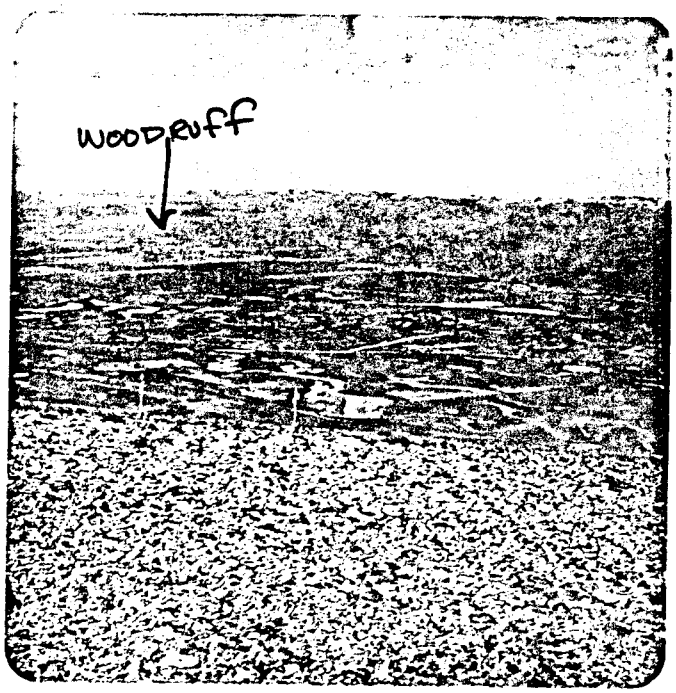
I determine that the proposed action (as modified by the recommended approval conditions) does not constitute a major Federal action significantly affecting the quality of the human environment in the sense of NEPA, Section 102 (2)(C).

DISTRICT ENGINEER

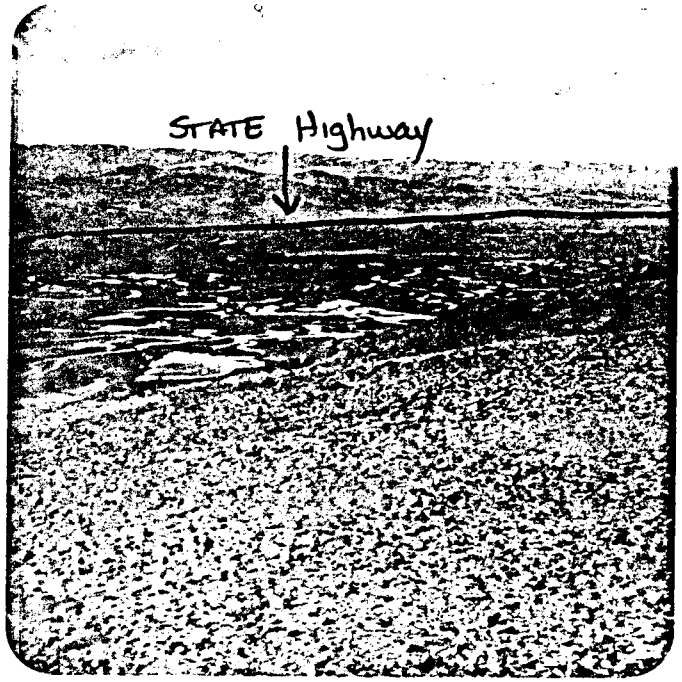
Signature & Title of Approving Official

JUN 10 1980

Date



WEST EDGE OF PAD
FACING SW



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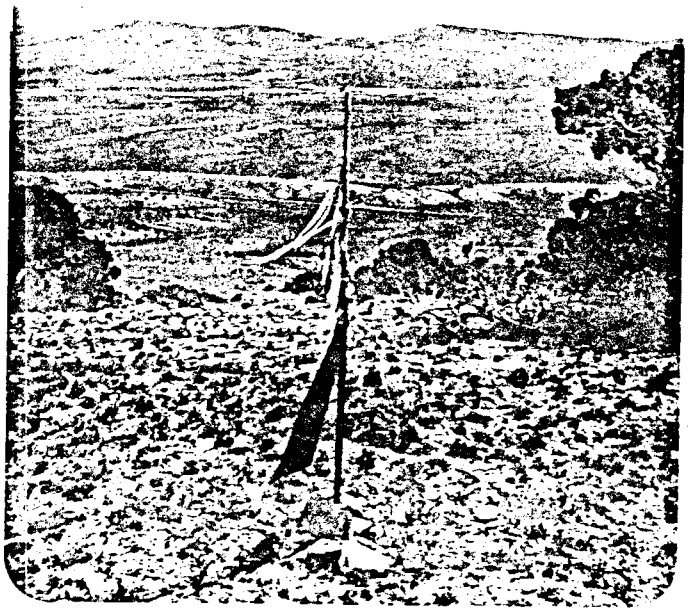
FACING NW



FACING E

FACING S

FACING N

SOUTH EDGE OF PAD
FACING N

SELECTED REFERENCES

Anderson, B.A. and A.H. Holmgren, 1977, Mountain Plants of Northeastern Utah: Utah State University Extension Service, Circular 319, Logan, Utah. 142 p.

Bureau of Land Management, 1979, Draft Environmental Assessment Report, Oil and Gas Leasing, Rich County: U.S. Department of the Interior, BLM, Salt Lake City, Utah. 110 p.

Bureau of Land Management, 1979, Interim Management Policy and Guidelines for Lands Under Wilderness Review: U.S. Department of the Interior, BLM, Washington, D.C. 32 p.

Johnson, C.M., 1970, Common Native Trees of Utah. Agricultural Experiment Station Cooperative Extension Service, Special Report 22, Utah State University, Logan, Utah, 109 p.

Keller, E.A., 1976, Environmental Geology C.E. Merril Publishing Company, Columbus, Ohio. 488 p.

Rocky Mountain Association of Geologists, 1972, Geologic Atlas of the Rocky Mountain Region: Denver, Colorado. 331 p.

Wilson, LeMoyne, et.al, 1975 Soils of Utah. Agricultural experiment Station Bulletion 492, Utah State University, Logan, Utah. 94 p.

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Salt Lake District Office
2370 South 2300 West
Salt Lake City, Utah 84119

IN REPLY REFER
3000
O&G 0006
U-25097
(U-201)

U. S. Geological Survey
Oil and Gas Section
Attn: Mr. George Diwachak
2000 Administration Bldg.
1745 West 1700 South
Salt Lake City, Utah 84119

Dear Sir:

Enclosed is a staff report and revised operating plan for Marathon Oil Company's South Crawford Mountain #1-35 well site located in T. 10 N., R. 7 E., Sec. 35, Rich County, Utah.

I concur with approval of the application for permit to drill, and the surface development and operating plan as amended.

Sincerely yours,

Jack C Peterson

Jack C. Peterson
Bear River Resource
Area Manager

Enclosures

CONSERVE AMERICA'S ENERGY

Save Energy and You Serve America!

STAFF REPORT

An on site inspection was made, on Thursday, May 22, 1980, of a proposed drilling location for Marathon Oil Company's South Crawford Mountain #1-35 located in T. 10 N., R. 7 E., Section 35, SLM, Rich County, Utah.

Those present for the inspection were George Diwachak, USGS; Walt West, Ken Tomah, Mac Hansen, Chris Potter, and Steve Degenfelter, Marathon Oil Company; Kenn Frye, Dan Washington and Jack Brown, BLM; Harvey Lundershausen, Opal Construction.

The proposed location lies about four miles northeast of Woodruff, Utah in the Bear River drainage. Topography consists mainly of sloping valleys and a steep ridgeline. The well pad is situated on a ridgetop on the southern end of the Crawford Mountains at an elevation of 7240 feet above mean sea level. Several species of wildlife frequent the area with the most prevalent being mule deer, coyotes, badgers, rabbits, ground squirrels, raptors and sage hens. Reviewing our planning system information and the investigation at the field inspection showed that there are no threatened or endangered species known to be in this area. Cattle grazing occurs during late spring, summer, and fall.

Vegetation is mainly a sagebrush-wheatgrass-forb biome with scattered on a sandy loam type soil. The ridgeline was mostly fractured limestone with little vegetation growing. Annual precipitation ranges between 6-8 inches.

Due to some load limitations on the county road from Woodruff, it was decided that primary access would be obtained from the north on the recently improved Spring Hollow Road. Road improvements would be required on about 2½ miles of county maintained road and up grading about 2½ miles of two-track jeep road to reach the location. A final decision on water for drilling is pending with installation of a surface pipeline most likely. An archaeologist from the University of Utah has been hired by Marathon to perform the necessary clearance work; however to date we have not received a report.

U-25097

REVISED OPERATING PLAN

Marathon Oil Company's South Crawford Mountain #1-35.

1. As discussed at site inspection, access will be obtained from the north on the Spring Hollow Road because of load limits on the county road from Woodruff.

2. Some culverts may be needed on the new road alignment.

3. No change.

4. No change.

5. If a water well were drilled instead of the change to a surface pipeline discussed at the on site inspection, the BLM would be interested in developing the water well.

6. No change.

7. No change.

8. No change.

9. Reserve pit will be lined with a clay material to seal it after construction. Sediment traps will be constructed on the down stream side if necessary.

10. Very little topsoil exists on the site; therefore, no soil stock pile will be required. As determined at the on site, three or four loads of top soil will be brought in during restoration. This will be used on the east side of the location to establish a ground cover. All materials used on the west side will blend with the existing material as to color. All juniper trees will be cut and removed from the location either by trucking them out or scattering them below the location so no slash piles are formed. Upon completion of recontouring, the location should approximate the original contour for east side of the location and will be seeded with the mixture listed below. The west side of the location will be regenerated naturally. All seed is to be certified as having a germination of 90% or better. Seeding is to be done in the fall (September 1 -October 30) following the site preparation for abandonment. Seed shall be planted to a depth of ¼" to ½" inch and shall be repeated seasonally until a satisfactory ground cover is obtained as determined by the District Manager or his delegate. The seed mixture is:

2 lbs/acre	Crested Wheatgrass
1 lb/acre	Small burnet
½ lb/acre	Bitterbrush
½ lb/acre	Saskatoon Serviceberry
1 lb/acre	Rambler alfalfa
1 lb/acre	Bluebunch wheatgrass
½ lb/acre	Perennial rye

11. Some of the access road will be on a State section. As stated in the preliminary environmental assessment no activity will be allowed at the location between November 15 to May 1 to protect the wintering deer and elk.

12. No change.

13. No change.

14. The BLM representative for surface disturbance/reclamation is Dan Washington, Salt Lake District (801-524-5348).

U. S. GEOLOGICAL SURVEY - CONSERVATION DIVISION

FROM: : DISTRICT GEOLOGIST, ME, SALT LAKE CITY, UTAH

TO : DISTRICT ENGINEER, O&G, SALT LAKE CITY, UTAH

SUBJECT: APD MINERAL EVALUATION REPORT LEASE NO. U 25097

OPERATOR: Marathon Oil WELL NO. 1-35

LOCATION: NW ¼ NW ¼ SW ¼ sec. 35, T. 10N, R. 7E, SLM

Rich County, Utah

---

1. Stratigraphy:

Brazer Dolomite -	surface	Cretaceous? - sub thrust.
Lodgepole Ls -	1100	
Three Forks "	1700	
Jefferson "	2100	
Bighorn "	2400	
Madison Dolomite	?	
Thrust fault ~	5000	

2. Fresh Water:
Probable in small quantities in Brazer. Possible in large quantities, but unpredictable, in cavernous lost circulation zones, possible anywhere

3. Leasable Minerals:
none (phosphate too thin to be commercial

4. Additional Logs Needed: adequate

5. Potential Geologic Hazards: possible H_2S gas may be present throughout.
(A local phosphate rock at base of Brazer may be an H_2S source)

6. References and Remarks:

Signature: [signature] Date: 5-23-80

Casper Division
Production, U.S. & Canada

Marathon Oil Company

P.O. Box 2659
Casper, Wyoming 82602
Telephone 307/235-2511

June 12, 1980

State of Utah
Department of Natural Resources
Division of Oil, Gas, and Mining
1588 West North Temple
Salt Lake City, Utah 84116

Attn: Mr. Michael T. Minder

Dear Mr. Minder:

Three locations were originally staked on our proposed South Crawford Mountain #1-35, Section 35, T1ON, R7E, Rich County, Utah. The unorthodox location was chosen at staking by BLM and Marathon's representatives. Taken in consideration were topographical, geological, visual resource, wildlife, soil, access and rehabilitation. The location shown on the attached surveyor's plat posed least damage to environmental assessment, and was approved May 22, 1980, by Mr. Jack C. Peterson, BLM, Bear River Resource Area Manager.

We request an exception to location due to the above stated assessment and Utah Rule C-3, Item (1), topographical conditions.

Yours very truly,

MARATHON OIL COMPANY

Dale Caddy

Dale T. Caddy
District Operations Manager

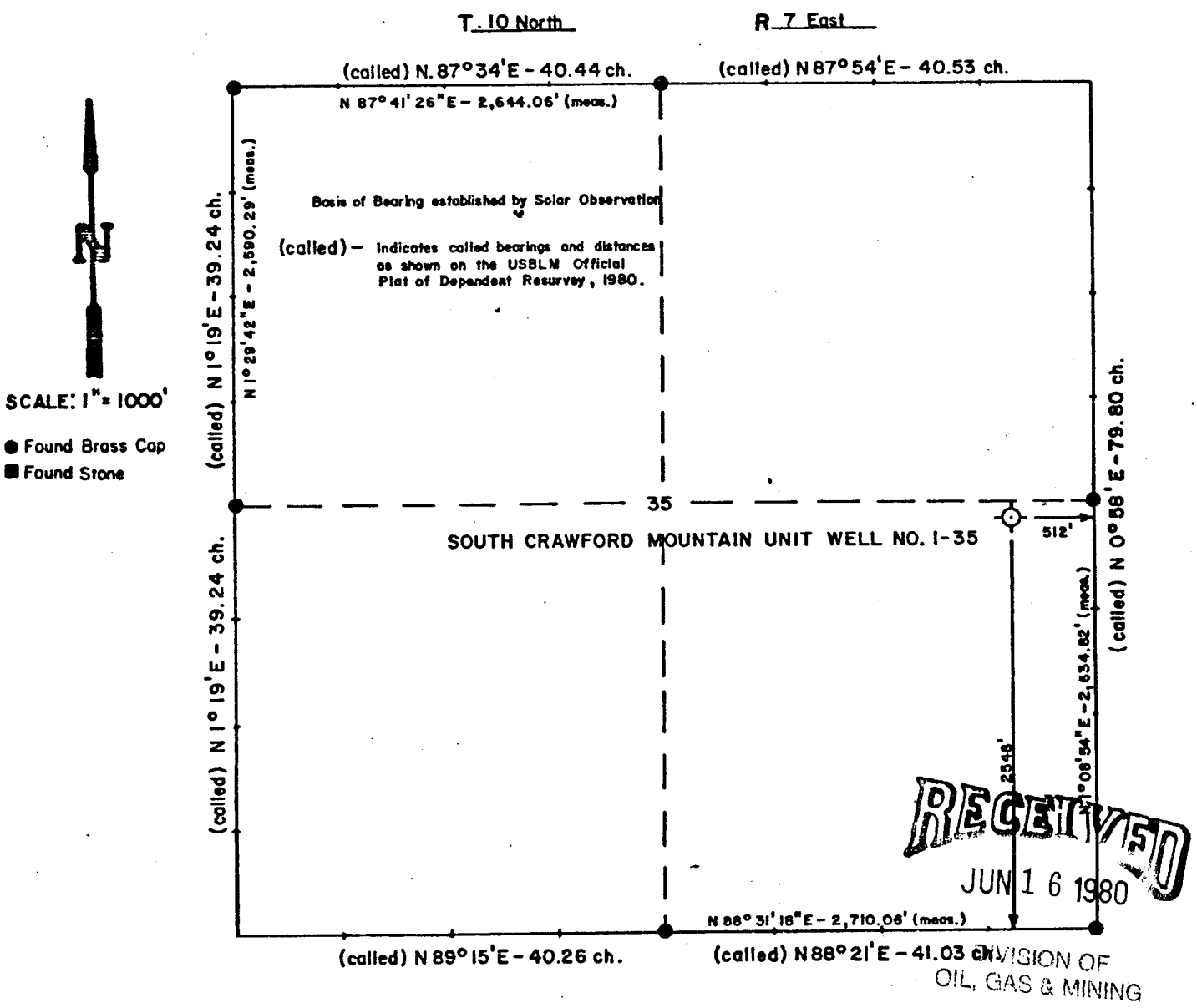
DTC/WW:ss

Attachments: 1 Surveyor's Plat
1 Topo Map
showing location & access roads
1 (original) stipulation, USGS Rule
30 CFR 221.20 showing ownership
of 660' radius of location

P.O. BOX 654
GREEN RIVER, WYOMING
82935
TELEPHONE: (307) 875-3638

WILLIAM H. SMITH & ASSOCIATE
SURVEYING CONSULTANTS

P.O. BOX 1300
MOAB, UTAH
84532
TELEPHONE: (801) 259-6861



RECEIVED
JUN 16 1980
DIVISION OF
OIL, GAS & MINING

I, William H. Smith of Green River, Wyoming hereby certify that in accordance with a request from Walt West of Casper, Wyoming for Marathon Oil Company Randy Rowley under my supervision and direction made a survey on the 7th. day of May, 1980 for location and elevation of the South Crawford Mountain Unit, Well No. 1-35. As shown on the above map, the wellsite is in the SE/4 of Section 35, Township 10 North, Range 7 East of the Salt Lake Base & Meridian, Rich County, State of Utah. Elevation is 7,246 feet ungraded ground Datum established at the Southwest section corner of Section 35, T10N, R7E as shown on USGS 7 1/2' topo "Woodruff, Utah."

Reference Point 390' NORTH, rebar stake & lath, Elevation top rebar = 7,218.0'

Reference Point 300' NORTH, rebar stake & lath, Elevation top rebar = 7,225.3'

Reference Point 200' SOUTH, rebar stake & lath, Elevation top rebar = 7,235.7'

Reference Point 200' EAST, rebar stake & lath, Elevation top rebar = 7,205.3'

Reference Point 250' WEST, rebar stake & lath, Elevation top rebar = 7,228.4'

Reference Point 200' WEST, rebar stake & lath, Elevation top rebar = 7,238.6'

William H. Smith
UTAH R.L.S NO. 2764

JOB NO. 188-79

SUBMIT IN TRIPLICATE

Rule 30 CFR 221.20 requires well shall not be drilled closer than 200 feet from the lease boundary, or 200 feet from any legal subdivision, without adequate reasons or consent.

District Oil and Gas Engineer
U. S. Geological Survey
Conservation Division
2000 Administration Building
1745 West 1700 South
Salt Lake City, UT 84104

Re: Stipulation

Dear Sir:

The Louisiana Land and Exploration Company is the owner of U. S. oil and Gas Lease U-25097, and proposes *to drill a well on the leased premises to test for oil and gas at a location in the NE ¼ NE ¼ SE ¼, Section 35, Township 10N., Range 7E., S.L. Meridian, Rich County, State of Utah, 512' from East line, and 2548' from South line of Section 35.

Section 221.20 of the Federal Oil and Gas Regulations requires that no well be drilled less than 200 feet from the boundary of any legal subdivision without the written consent of the Supervisor, United States Geological Survey. The proposed location is approximately 512' from the East North boundary line of the NE ¼ SE ¼ of Section 35, but is considered to be necessary because of terrain difficulties.

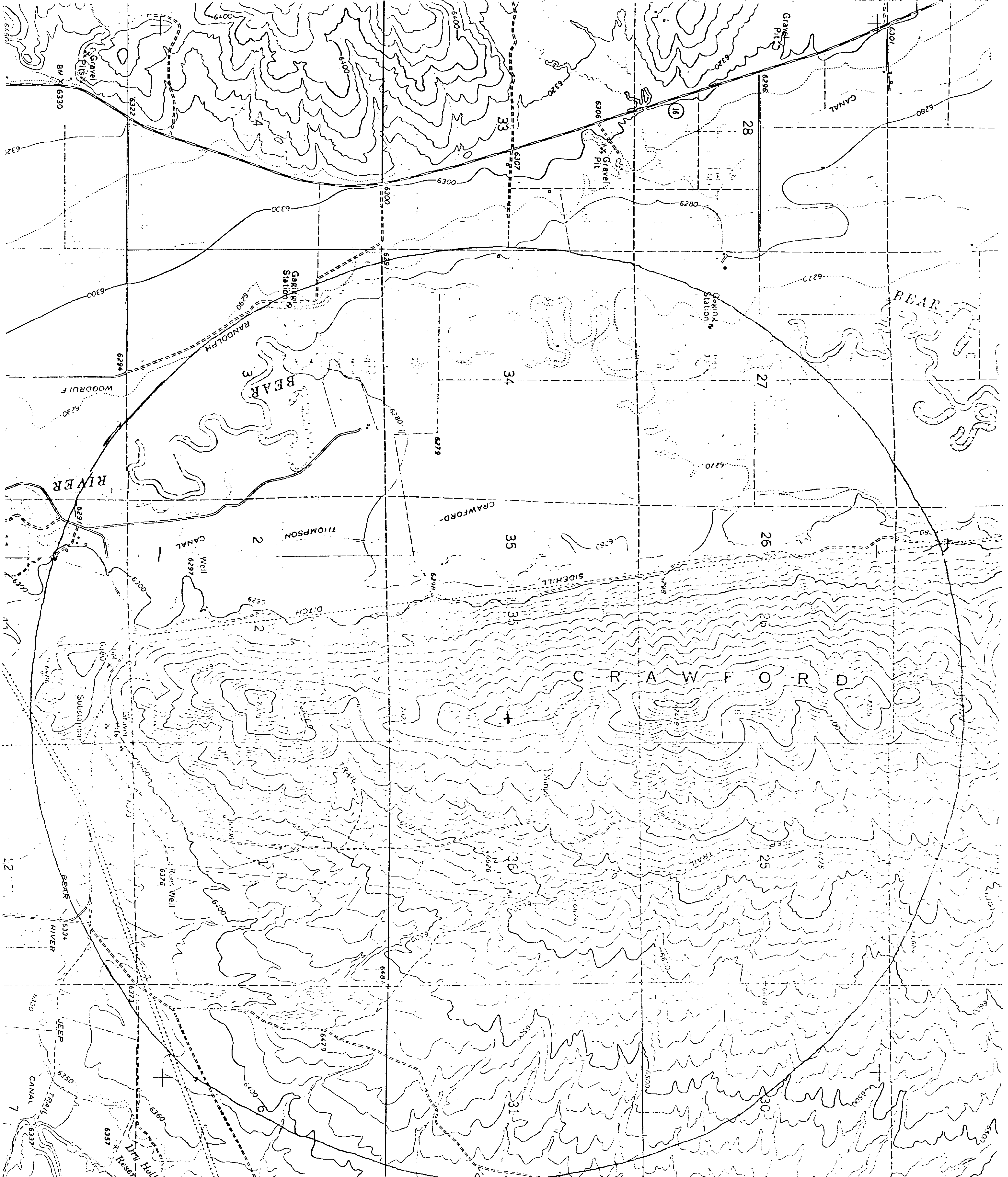
Therefore, LL&E, Lessee, requests the consent of the Supervisor to the drilling of the proposed well at the above-described location. In consideration of such consent, LL&E, Lessee, hereby expressly covenants and agrees that he will make no separate assignments of the SE ¼ NE ¼, and the NE ¼ SE ¼, Section 35, Township 10N., Range 7E., S.L. Meridian, and that he will keep the two described subdivisions under joint assignment until the above-mentioned well has been plugged and abandoned with the approval of the Supervisor.

Sincerely Yours,

Lawrence Davis
Exploration Manager
Louisiana Land and Exploration Company

* Marathon Oil Company to be operator.

Copies to SL
6-3-80
west


C R A W F O R D
BEAR
RIVER
RANDOLPH
WOODRUFF
CRAWFORD
THOMPSON
CANAL
SIDEHILL
DITCH
Gaging Station
Gravel Pit
Gravel Pits
BM 6330
Substation
Well
Ross Well
JEEP
TRAIL
Dry Hollow Reservoir
16
6400
6300
6280
6270
6500
6600
33
34
35
36
28
27
26
25
2
3
4
12
7
31
30

June 23, 1980

Marathon Oil Company
P.O. Box 2659
Casper, Wyoming 82602

Re: Well No. South Crawford Mountain #1-35
Sec. 35, T. 10N, R. 7E.,
Rich County, Utah

Insofar as this office is concerned, approval to drill the above referred to gas well on said unorthodox location is hereby granted in accordance with Rule C-3(c), General Rules and Regulations and Rules of Practice and Procedure. However, this Division requires that a letter be sent to this office stating that Marathon Oil Company owns or contrabs the acreage within a 660' radius of the proposed well site.

Should you determine that it will be necessary to plug and abandon this well, you are hereby requested to immediately notify the following:

MICHAEL T. MINDER - Petroleum Engineer
Office: 533-5771
Home: 876-3001

Enclosed please find Form OGC-8-X, which is to be completed whether or not water sands (acquifers) are encountered during drilling. Your cooperation in completing this form will be appreciated.

Further, it is requested that this Division be notified within 24 hours after drilling operations commence, and that the drilling contractor and rig number be identified.

The API number assigned to this well is 43-033-30026.

Sincerely,

DIVISION OF OIL, GAS AND MINING

Michael T. Minder
Petroleum Engineer

/btm

cc: USGS

Casper Division
Production, U.S. & Canada

Marathon Oil Company

P.O. Box 120
Casper, Wyoming 82602
Telephone 307/235-2511

June 23, 1980

State of Utah
Department of Natural Resources
Division of Oil, Gas, and Mining
1588 West North Temple
Salt Lake City, Utah 84116

Gentlemen:

Re: South Crawford Mountain Well #1-35
SE¼ Section 35, T. 10 N., R. 7 E.
Rich County, Utah

Per your verbal request to Walter E. West, this is to advise that Louisiana Land & Exploration Company is the record owner of United States Oil and Gas Lease Utah 25097, covering the following described lands situate in Rich County, State of Utah:

T. 10 N., R. 7 E., S.L.M.
Section 24: All
Section 25: All
Section 35: Lots 1 thru 8 (E½),

and, Utah State Oil, Gas and Hydrocarbon Lease ML-30343, covering the following described lands situate in Rich County, State of Utah:

T. 10 N., R. 7 E., S.L.M.
Section 36: All

These two leases cover all lands within a 660 foot radius of the proposed well site located 512 feet from the East line and 2548 feet from the South line of Section 35. Marathon, through a previous arrangement with LL&E, will drill this well as operator for itself and LL&E.

Very truly yours,

Sherman O. Nation

Sherman O. Nation
Area Land Supervisor

SON/mm

cc: W. E. West

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

NAME OF COMPANY: Marathon Oil Company

WELL NAME: South Crawford Canyon #1-35

SECTION 35 NE SE TOWNSHIP 10N RANGE 7E COUNTY Rich

DRILLING CONTRACTOR True Drilling

RIG # 20

SPUDDED: DATE 7/19/80

TIME 9:00 p.m.

HOW rotary

DRILLING WILL COMMENCE ASAP

REPORTED BY Walt West

TELEPHONE # 235-2511

DATE July 21, 1980 SIGNED

cc: USGS

Form 9-331
Dec. 1973

Form Approved.
Budget Bureau No. 42-R1424

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

1. oil well ☐ gas well ☐ other Wildcat
2. NAME OF OPERATOR: Marathon Oil Company
3. ADDRESS OF OPERATOR: P.O. Box 2659, Casper, Wyoming 82602
4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.) 2548' FSL & 512' FEL
   AT SURFACE:
   AT TOP PROD. INTERVAL:
   AT TOTAL DEPTH:
5. LEASE: U 25097
6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
7. UNIT AGREEMENT NAME:
8. FARM OR LEASE NAME: South Crawford Mountain
9. WELL NO.: 1-35
10. FIELD OR WILDCAT NAME: Wildcat
11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 35, T10N, R7E
12. COUNTY OR PARISH: Rich
13. STATE: Utah
14. API NO.: 43-033-30026
15. ELEVATIONS (SHOW DF, KDB, AND WD): 7246'GL, 7267'KB

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

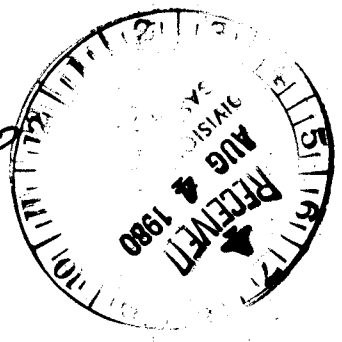
REQUEST FOR APPROVAL TO:		SUBSEQUENT REPORT OF:
TEST WATER SHUT-OFF	☐	☐
FRACTURE TREAT	☐	☐
SHOOT OR ACIDIZE	☐	☐
REPAIR WELL	☐	☐
PULL OR ALTER CASING	☐	☐
MULTIPLE COMPLETE	☐	☐
CHANGE ZONES	☐	☐
ABANDON*	☐	☐
(other) See Below		

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

PROGRESS REPORT
See Attached

From: 7-8-80 To: 7-25-80



Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

18. I hereby certify that the foregoing is true and correct

SIGNED K.A. Thoma. TITLE Drilling Supr. DATE 7/30/80

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

SOUTH CRAWFORD MTN #1-35 WELL HISTORY

7-8-80	55'	MADE 0' IN BRAZER FORMATION. OPENED PILOT HOLE FOR CONDUCTOR PIPE TO 55" BELOW G.L.. DRLG RATHOLE. WATER WELL @ 710'- NO WATER. 4 LOADS OF RIG ON LOCATION. RESERVE PIT LINED W/NATIVE CLAY & FENCED W/STRAW BACK BARRICADE ON WEST-SIDE. 1 1,000 GAL SEPTIC TANK IN BACK & DRAINAGE LINE INTO FIELD.
7-9-80	71'	MADE 0' IN BRAZER FORMATION. JACK-HAMMER TO DIG OUT CELLAR & INSTALL 8' DIAMETER CORREGATED STEEL RETAINER RING. DRLD RATHOLE & MOUSEHOLE. REC'D 6 LOADS OF RIG, SUBSTRUCTURE. WATER WELL DRLG @ 890'- 10-15 GPM WATER. PRESENT OPERATION MIRT-R/U.
7-10-80	73'	MADE 0' IN BRAZER FORMATION. DRILL RAT & MOOSE HOLE. CMT 30" CONDUCTOR PIPE W/20 YRDS CMT SET CONDUCTOR @ 72.9'. CONTINUE MIRT. 29 LOADS OF RIG ON LOCATION. WATER WELL @ 970', 60 GALS/MIN TEST. PRESENT OPERATION MIRT.
7-11-80	73'	MADE 0' IN BRAZER FORMATION. LEVEL LOCATION. SET MATS & SUBSTRUCTURE & START RIG UP. CRANE ARRIVED @ 3:30 PM. WATER WELL RIG REPAIRING HYDRAULIC SYSTEM. 8-5/8" CASING ARRIVED. PRESENTLY BEVELING CASING. PRESENT OPERATION MIRT.
7-12-80	73'	MADE 0' IN BRAZER FORMATION. SET MOTORS DRAWWORKS, PUMPS, FINISH PUTTING SUBSTRUCTURE TOGETHER, BEGIN PLACING MUD TANKS, SET DOG HOUSE, GENERAL RIG UP CONTINUING. WATER LINE LAYED, WATER WELL DRILLER REPAIRING RIG. NANCY FOX W/BLM INSPECTED LOCATION, NO MAJOR PROBLEMS.
7-13-80	73'	MADE 0' IN BRAZER FORMATION. 90% OF RIG PLACED, DITCHES DUG DERRICK NOT PUT TOGETHER, (CROWN BLOCK BEING REPAIRED IN CASPER). CASING FOR WATER WELL PREPARED.
7-14-80	73'	MADE 0' IN BRAZER FORMATION. CONTINUE RIG UP. BARIOD SET CENTRIFUGE; WORKING ON SHAKER, WILL PUT DERRICK TOGETHER TODAY. 1 TRUCK & CRANE ON LOCATION. WATER WELL REPAIRED TO 620 W/9-2/8" PT. SHOULD START RUNNING CASING TODAY.
7-15-80	73'	MADE 0' IN BRAZER FORMATION. CONTINUE TO RIG UP. CROWN SHOULD BE DONE TODAY. EST 1 DAY LOST SO FAR WAITING ON CROWN. ALL THE BOLTS TO PUT DERRICK TOGETHER ARE WITH CROWN SECTION IN CASPER. BAROID SET MUD CLEANERS & SHALE SHAKERS, SHOULD FINISH TODAY. WATER WELL REAMED TO 970'. STARTED RUNNING CSG. RAN CSG TO 220'.
7-16-80	73'	MADE 0' IN BRAZER FORMATION. CONTINUE TO RIG UP. GOT ENGINES RUNNING EST 1-1/2 DAYS LOST WAITING ON CROWN SECTION IN CASPER MACHINE SHOP. CROWN SECTION WAS IN KEMMERER LAST NIGHT. RECIEVED 4,000 GAL DIESEL FROM K&T OIL. RAN CSG IN WATER WELL TO 580'. TIGHT HOLE. PRESENTLY TRYING TO GET PIPE DEEPER. PRESENT OPERATION RURT.
7-17-80	73'	MADE 0' IN BRAZER FORMATION. RURT. CROWN SECTION ARRIVED, DERRICK TOGETHER. BAROID HAS ALL SOLIDS EQUIP RIGGED UP. PARTED CSG ON WATER WELL. HAD 495' 8-5/8" TO 100' 8-5/8" IN HOLE. PULLED 8-5/8 OUT OF HOLE. WILL RUN MCCULLOUGH THIS AM TO FIND WHERE PARTED.

7-18-80 73' MADE 0' IN BRAZER FORMATION. CONTINUE TO RIG UP ROTARY TOOLS. WATER WELL: CSG PARTED. CSG FROM 930' TO 700' & FROM 257' TO SURFACE. PRESENT OPERATION, RURT.

7-19-80 73' MADE 0' IN BRAZER FORMATION. RURT. RAN PUMP TO 700'. HAVE SHORT & KEEPS BLOWING BREAKER ON GENERATOR. START OUT OF HOLE W/PUMP. CABLE CAME LOOSE FROM TUBING. CABLE & TUBING HUNG UP @ 190'. WILL GET RIG & PULL TUBING & TOP 230' OF CSG AT SAME TIME. PRESENT OPERATION RURT.

7-20-80 124' MADE 51' IN BRAZER FORMATION. BIT NO 1, 12-1/4, SEC, DMM, DEPTH IN 73', MADE 51' IN 3-1/2 HRS; 14.6 FT/HR. OPER DRLG. RPM 60, WT ON BIT 10,000. DRILLING ASSEMBLY AS FOLLOWS.

COMPONENT	LENGTH	O.D.	I.D.
BIT	1.00	12-1/4	
BIT SUB	4.13	9	3
2 DC'S	60.49	9	3
X-O	3.73	7	2

TOTAL BHA 69.35. SPUD WELL @ 9:00 PM, 7-19-80. HOLE FALLING IN WHEN AIR SHUT OFF. TROUBLE MAKING CONNECTIONS. PRESENT OPER CIRC HOLE.

7-21-80 197' MADE 73' IN BRAZER FORMATION. BIT NO 1, 12-1/4, SEC, DMM, DEPTH IN 73', MADE 124' IN 11-1/2 HR; 10.8 FT/HR. OPER DRILLING. RPM 40, WT ON BIT 18,000. DEV DEPTH 12.4 INC 1/4°, DEPTH 1.54 INC 3/4°, DEPTH 183 INC 1/4°. DRILLING ASSEMBLY AS FOLLOWS:

COMPONENT	LENGTH	O.D.	I.D.
BIT	1.00	12-1/4	
BIT SUB	4.13	9	3
5 DC'S	149.97	9	3
X-OVER	3.73	7	2

TOTAL BHA 158.83. DRLG. COULD NOT MAKE CONN CIRC TO COND HOLE. HOLE SLOUGHING IN. INCREASE SOAP & WATER INTO AIR MIST. HOLE ACTS LIKE BOULDER SLOUGHING IN. DOLAMITE - BROWN/ LAYING STRAIGHT UP & DOWN.

7-22-80 354' MADE 157' IN BRAZER FORMATION. BIT NO 1, 12-1/4, SEC, DMM, DEPTH IN 73', MADE 281' IN 30 HRS; 9.4 FT/HR. OPER DRILLING. RPM 40, WT ON BIT 25,000. DEV DEPTH 245' INC 1/4°, DEPTH 306' INC 3/4°, DEPTH 338' INC 0°.

COMPONENT	LENGTH	O.D.	I.D.
BIT	1.00	12-1/4	
BIT SUB	4.13	9	3
6 DC'S	180.91	9	3
X-OVER	3.73	7	2

TOTAL BHA 189.77'. DRILLING AHEAD, HOLE STILL SLOUGHING BUT HEALING UP. PIPE TRIED TO STICK ON SURVEY, WORKED TIGHT PIPE - 1 HR.

7-23-80 527' MADE 173' IN BRAZER FORMATION. BIT NO 1, 12-1/4, SEC, DMM, DEPTH IN 73, DEPTH OUT 455', MADE 382' IN 40-3/4 HRS; 9.4 FT/HR. OPER DULL. BIT NO 2, SEC, DMM, DEPTH IN 455', MADE 72' IN 6 HRS; 12 FT/HR. OPER DRLG. RPM 60, WT ON BIT 25,000. DEV DEPTH 401' INC 3.4°, DEPTH 464' INC 1/2°, DEPTH 527' INC 1°. TOTAL BHA 189.77. DRLD TO 455' & POH. HOLE OK. RIH & TAG BRIDGE @ 160'. P/U KELLY & REAMED THRU BRIDGE. RIH & TAGGED BRIDGE @ 250'. REAMED THRU BRIDGE & REAMED TO TD. HAD 12' OF FILL. PRESENTLY DRLG AHEAD.

7-24-80 640' MADE 113' IN BRAZER FORMATION. BIT NO 2, 12-1/4, SEC, DMM, JETS OPEN, DEPTH IN 455', DEPTH OUT 620', MADE 165' IN 21-1/2 HRS; 7.7 FT/HR. OPER DULL. RPM 92, WT ON BIT 15,000. DEV DEPTH 591' INC 1-1/2°, DEPTH 620' INC 1°. DRILLING ASSEMBLY AS FOLLOWS:

COMPONENT	LENGTH	O.D.	I.D.
BIT	1.00	12-1/4	
BIT SUB	4.13	9	3
3 DC'S	91.40	9	3
IBS	5.55	12-1/4	3
3 DC'S	89.51	9	3
X-OVER	3.73	9	2

TOTAL BHA 195.32. DRLD TO 620', HAD MISRUN THE SURVEY AND DROPPED THE SURVEY. POH W/BIT #2. RIH, BRIDGE AT 306'. 8' OF FILL. DRILLING AHEAD.

7-25-80 822' MADE 182' IN BRAZER FORMATION. BIT NO 3, 12-1/4, HTC, XDV, JETS OPEN, DEPTH IN 620, DEPTH OUT 822, MADE 202' IN 17 HRS; 11.9 FT/HR. OPER TRIP. RPM 92, WT ON BIT 15,000. DEV DEPTH 623 INC 1°, DEPTH 663 1/4°, DEPTH 726 INC 1/2°. TOTAL BHA 195.32. DRILL TO 822'. TWIST OFF, POH. LEFT 4 DC'SON BOTTOM TWIST OFF 6" OF BOX. P/U FISH TOOLS, RIH. PICKUP FISH TRIP OUT.

Form 9–331
Dec. 1973

Form Approved.
Budget Bureau No. 42–R1424

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9–331–C for such proposals.)

1. oil well ☐ gas well ☐ other Wildcat
2. NAME OF OPERATOR: Marathon Oil Company
3. ADDRESS OF OPERATOR: P.O. Box 2659, Casper, Wyoming 82602
4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.) 2548' FSL & 512' FEL
   AT SURFACE:
   AT TOP PROD. INTERVAL:
   AT TOTAL DEPTH:
5. LEASE: U 25097
6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
7. UNIT AGREEMENT NAME:
8. FARM OR LEASE NAME: South Crawford Mountain
9. WELL NO.: 1-35
10. FIELD OR WILDCAT NAME: Wildcat
11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 35, T10N, R7E
12. COUNTY OR PARISH: Rich
13. STATE: Utah
14. API NO.: 43-033-30026
15. ELEVATIONS (SHOW DF, KDB, AND WD): 7246'GL, 7267'KB
16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:		SUBSEQUENT REPORT OF:
TEST WATER SHUT-OFF	☐	☐
FRACTURE TREAT	☐	☐
SHOOT OR ACIDIZE	☐	☐
REPAIR WELL	☐	☐
PULL OR ALTER CASING	☐	☐
MULTIPLE COMPLETE	☐	☐
CHANGE ZONES	☐	☐
ABANDON*	☐	☐
(other) See Below		

(NOTE: Report results of multiple completion or zone change on Form 9–330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

PROGRESS REPORT
See Attached

From: 7-26-80 To: 8-8-80

RECEIVED
AUG 22 1980
DIVISION OF OIL, GAS, & MINING

Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

18. I hereby certify that the foregoing is true and correct

SIGNED A. Thomas TITLE Drilling Supr. DATE Aug. 18, 1980

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

SOUTH CRAWFORD MTN #1-35 WELL HISTORY

7-26-80 1000' MADE 178' IN BRAZER FORMATION. AIRMIST. BIT NO 3, 12-1/4, HTC, XDV, OPEN, DEPTH IN 620', DEPTH OUT 822', MADE 202' IN 17 HRS; 11.9 FT/HR. OPER PULLED. BIT NO 4, 12-1/4, SMT, F-2, OPEN, DEPTH IN 822', DEPTH OUT 1000', MADE 178' IN 12 HRS; 14.8 FT/HR. OPER CIRC. RPM 80, WT ON BIT 15,000. DEV DEPTH 853' INC 3/4°, DEPTH 947' INC 1/8°, DEPTH 1000' INC 1/4°. TOTAL BHA 195.32. WORK ON AIR MIST PUMP, TIH, REAM 60' OUT-OF-GAUGE HOLE TO BOTTOM, DRILLED TO 1000', CIRCULATE AND WORK TIGHT HOLE.

7-27-80 1000' MADE 0' IN BRAZER FORMATION. MW 8.6, VIS 46. BIT NO 4, 12-1/4, SMT, F-2, OPEN, DEPTH IN 822', DEPTH OUT 1000', MADE 178' IN 12 HRS; 14.8 FT/HR. OPER PULLED. WORKED TIGHT HOLE, POH, NIPPLE UP FLOWLINE, MIX MUD, TIH, PUMPED 600 BBLS, 40 VIS, 10% LCM, MUD MIXED W/AIR-NO RETURNS, POH, MIX MUD W/30% LCM. - WILL ATTEMPT TO FILL HOLE AGAIN.

7-28-80 1000' REAMED 123' IN BRAZER FORMATION. MW 9, VIS 42. PUMP PRESS 150, GPM 318, ANNULAR VELOCITY 34. BIT NO HO#1, 17-1/2, SEC, MED, OPEN, DEPTH IN 73, MADE 123' IN 5-1/2 HRS; 22.4 FT/HR. RPM 90, WT ON BIT 20,000. DRILLING ASSEMBLY AS FOLLOWS:

COMPONENT	LENGTH	O.D.	I.D.
H.O	5.05	17-1/2	3
BIT SUB	2.97	9	3
S SUB	17.05	9	2-1/2
3 DC'S	91.40	9	3
NR STAB	7.45	9	3
1 DC	30.92	9	3
X-OVER	4.13	9	3
X-OVER	3.73	7	2-1/2

TOTAL BHA 162.70. TIH OPEN ENDED. PUMP 46 VISC W/28% LCM MUD W/AIR. GOT GOOD RETURNS SLOWLY REDUCED AIR. CIRC FOR LOGS. RAN GR-CSL AND DIP METER. DRILLERS TD 1,000' LOGGERS TD 995'. CHANGE BHA, OPENING HOLE TO 17-1/2". WATER WELL: PULL CSG, TBG & PUMP OUT OF HOLE.

7-29-80 1,000' REAMED 424' IN BRAZER FORMATION. MW 8.5, VIS 42. PUMP PRESS 150, GPM 318, ANNULAR VELOCITY 34. BIT NO H.O.#1, 17-1/2, SEC, MED, OPEN, DEPTH IN 73, DEPTH OUT 262, MADE 189' IN 10-1/2 HRS; 18 FT/HR, OPER DULL. BIT NO H.O.#2, 17-1/2, GRANT, TOOTH, OPEN, DEPTH 262', MADE 358 IN 17-1/2 HRS; 20 FT/HR. OPER REAM. RPM 100, WT ON BIT 20-25,000. DRILLING ASSEMBLY AS FOLLOWS:

COMPONENT	LENGTH	O.D.	I.D.
H.O.	5.05	17-1/2	3
BIT SUB	2.97	9	3
SHOCK SUB	17.05	9	2-1/2
3 DC'S	91.40	9	3
17-1/2 STAB	7.45	17-1/2	3
3 DC'S	89.51	9	3
X-OVER	4.13	9	3
X-OVER	3.73	7	2-1/2

TOTAL BHA 221.29. OPEN HOLE TO 17-1/2". TRIP FOR H.O.#2. LOSING APPROX 100 BBLS MUD/DAY. OPENING HOLE @ 620'. WATER WELL: MADE TRIP W/8-3/4 BIT, NO PROBLEMS.

SOUTH CRAWFORD MTN #1-35 WELL HISTORY

7-30-80 1,000' REAMED 328' IN BRAZER FORMATION. MW 8.5, VIS 41. PUMP PRESS 150, GPM 318, ANNULAR VELOCITY 34. BIT NO HO#2, 17-1/2, GRANT, OPEN, DEPTH IN 262', MADE 686' IN 34-1/4 HRS; 20 FT/HR. OPER OUT HOLE. RPM 100, WT ON BIT 20,000. TOTAL BHA 221,29'. OPENED 12-1/4" HOLE TO 17-1/2" FROM 620' TO 948'. LOST RETURNS. MIXED 300 BBLS OF 40 VISC & 30% LCM. PUMPED MUD W/NO RETURNS. POH. PRESENTLY MIXING MUD & WAITING FOR AIR DRILLING SER. WATER WELL - RAN PUMP & TBG TO 690'. (WATER @ APPROX 560').

7-31-80 1,000' REAMED 165' IN BRAZER FORMATION. MW 8.7, VIS 62. PUMP PRESS 150, GPM 318, ANNULAR VELOCITY 14. BIT NO H.O.#2, SIZE 17-1/2, GRANT, MED BUTTON, OPEN, DEPTH IN 262', DEPTH OUT 1000', MADE 738'IN 35 HRS; 21.1 FT/HR. OPER PULLED. BIT NO H.O.#3, 26", SEC, MED TOOTH, OPEN, DEPTH IN 73', DEPTH OUT 113', MADE 113' IN 5-3/4 HRS; 19.7 FT/HR. OPER REAMING. RPM 70, WT ON BIT 5,000. DRILLING ASSEMBLY AS FOLLOWS:

COMPONENT	LENGTH	O.D.	I.D.
H.O.#3	6.75	26	3
BIT SUB	2.97	9	3
SHOCK SUB	17.05	9	2-1/2
5 DC'S	149.86	9	3
X-OVER	4.13	9	3
X-OVER	3.73	7	2-1/2

TOTAL BHA 184.49'. WAIT ON AIR DRLG SERV PERSONNEL. R/U ROTATING HEAD. PUMPED 60 VISC MUD W/30% LCM. GOT FULL RETURNS. GRADUALLY REDUCED AIR VOLUME. FINISHED OPENING 12-1/4" TO 17-1/2" FROM 948' TO 1000'. CIRCULATED 1-1/2 HRS WITH FULL MUD RETURNS (NO AIR). POH. M/U 26" HOLE OPENER #3 & OPENED 17-1/2" TO 26". WATER WELL PUMPING 2" STREAM OF WATER TO LOCATION.

8-1-80 1,000' REAMED 139' IN BRAZER FORMATION. MW 8.7, VIS 45. PUMP PRESS 200, GPM 790, ANNULAR VELOCITY 27/37. BIT NO H.O.#3, 26, SEC, MED TOOTH, OPEN, DEPTH IN 73', MADE 252' IN 26-1/2 HRS; 9-1/2 FT/HR. OPER REAM. RPM 60-150, WT ON BIT 5-25,000. DRILLING ASSEMBLY AS FOLLOWS:

COMPONENT	LENGTH	O.D.	I.D.
HO #3	6.75	26	3
BIT SUB	2.97	9	3
SHOCK SUB	17.05	9	2-1/2
5 DC'S	199.86	9	3
X-OVER	4.13	9	3
1 DC	32.14	7	2-1/2
X-OVER	3.73	7	2-1/2

TOTAL BHA 216.63. OPENED 17-1/2" HOLE TO 26" FROM 186' TO 222'. COMPOUND RUNNING HOT CHECKED OUT - OK. REAMED 222' TO 299' & BROKE HIGH-CHAIN. PRESENTLY OPENING HOLE @ 325' & NOT LOSING ANY MUD. HOLE REAMING VERY ROUGH. USING HIGH RPM & LOW WOB TO CONTROL TORQUE & VIBRATION.

SOUTH CRAWFORD MTN #1-35 WELL HISTORY

8-2-80 1,000' MADE 15' IN BRAZER FORMATION. MW 9.0, VIS 48. PUMP PRESS 400, GPM 396, 397, ANNULAR VELOCITY 37/27. BIT NO HO#3, 26", SEC, MED TOOTH, JETS OPEN, DEPTH IN 73', DEPTH OUT 335', MADE 262' IN 28.5 HRS; 9.2 FT/HR. OPER DULL. BIT NO HO#4, 26", SEC, MED TOOTH, JETS OPEN, DEPTH IN 335', DEPTH OUT 340', MADE 5' IN 2 HRS; 2.5 FT/HR. OPER PULLED. BIT NO 5, 17-1/2, REED, Y31-J, JETS 15-15-15, DEPTH IN 340'. RPM 100, WT ON BIT 5-10,000. DRILLING ASSEMBLY AS FOLLOWS:

COMPONENT	LENGTH	O.D.	I.D.
BIT	1.00	17-1/2	
BIT SUB	2.97	9	3
CHR SHOCK SUB	17.05	9	2
SHOCK SUB	16.00	9	2
5 DC'S	199.86	9	3
X-OVER	4.13	9	3
3 DC'S	93.14	7	2-1/2
X-OVER	3.73	7	2-1/2

TOTAL BHA 287.88'. OPENED 17-1/2" TO 26" FROM 325' TO 335' - REAMING VERY SLOWLY. POH. RIH W/HO#4 W/TOOTH CUTTERS & REAMED 17-1/2" TO 26" FROM 335' TO 340'. - REAMING VERY SLOWLY. POH. RIH W/HO#5 W/INSERT BUTTON CUTTERS. COULD NOT MAKE ANY HOLE. POH. RIH W/17-1/2" BIT & HIT BRIDGE @ 340' IN PILOT HOLE (SET 40,000# WOB & BRIDGE WOULD NOT WASH OUT). REAMED 17-1/2" FROM 340' TO 400'. RIH & TAGGED BRIDGE @ 880'. WASHING DOWN @ 6:00 AM.

8-3-80 1,000' MADE 45' IN BRAZER FORMATION. MW 9.0, VIS 53. PUMP PRESS 500, GPM 396, 397, ANNULAR VELOCITY 27/37. BIT NO 5, 17-1/2, REED, Y31J, JETS 15-15-15, DEPTH IN 340', DEPTH OUT 1,000', OPER REAMED PILOT HOLE. BIT NO HO#5, 26, SEC, MED BUTTON, JETS OPEN, DEPTH IN 340', MADE 45' IN 8 HRS; 5.6 FT/HR. OPER REAM. RPM 100, WT ON BIT 10,000#. TOTAL BHA 287.88'. REAMED 17-1/2" PILOT HOLE 880' TO 1,000'. POH. RIH W/HO#5 W/INSERT BUTTON CUTTERS - COULD NOT MAKE HOLE. POH. L/D CHRISTENSEN SHOCK TOOL (OLD TOOL) THAT WAS TURNING INSIDE ITSELF (STRIPPED MANDREL). RIH W/HO#5 & OPENED 17-1/2" TO 26" FROM 340' TO 357'. TWISTED OFF DRILL PIPE 1' BELOW KELLY. M/U OVERSHOT ON JT OF BENT DP. ENGAGE FISH & POH W/SAME. L/D PARTED JOINT OF DP. OPEN TO 26" FROM 357' TO 385'. TORQUE & VIBRATION EXCESSIVE.

8-4-80 1,000' MADE 87' IN BRAZER FORMATION. MW 8.9, VIS 39. PUMP PRESS 500, 500, GPM 396, 397, ANNULAR VELOCITY 27/37. BIT NO HO#5, 26, SEC, MED BUTTON, JETS OPEN, DEPTH IN 340', DEPTH OUT 472', MADE 132' IN 20 HRS; 6.6 FT/HR. OPER PULLED. RPM 100, WT ON BIT 20,000. TOTAL BHA 287.88. OPEN 26" HOLE TO 472', TWIST OFF @ 184'. LEFT BHA, 1 TOOL JT & 6" DP LOOKING UP. COULDN'T GET OVER FISH. GOT BIGGER GUIDE SHOE & ENGAGED FISH & TRIP OUT OF HOLE.

SOUTH CRAWFORD MTN #1-35 WELL HISTORY

8-5-80 1,000' MADE 128' IN LODGE POLE FORMATION. MW 8.8, VIS 39. PUMP PRESS 500, GPM 396, 397, ANNULAR VELOCITY 27/37. BIT NO HO#4, 26, SEC, MED TOOTH, JETS OPEN, DEPTH IN 472' DEPTH OUT 486', MADE 14' IN 3-1/2 HRS; 4 FT/HR. OPER DULL. BIT NO HO#6, 26, GRANT, SOFT BUTTON, JETS 3-16. DEPTH IN 486', MADE 114' IN 13 HRS; 8.8 FT/HR. OPER DRLG. RPM 100, WT ON BIT 25-30,000. DRILLING ASSEMBLY AS FOLLOWS:

COMPONENT	LENGTH	O.D.	I.D.
HO	4.60	26	
BIT SUB	5.60	9	3
SHOCK SUB	16.00	9	2-1/2
SHOCK SUB	15.86	9	2-1/2
5 DC'S	149.86	9	3
X-OVER	4.13	9	3
3 DC'S	93.14	7	2-1/2
X-OVER	3.73	7	2-1/2

TOTAL BHA 292.92'. POH & L/D FISH. HAD LOST 2 STRAPS 4" X 2" X 3/4" OFF HO#5. RIH W/HO#4 RERUN (MEDIUM TOOTH). OPEN 17-1/2" TO 26" FROM 472' TO 486'. POH. RIH W/HO#6 (SOFT BUTTON). OPEN 17-1/2" TO 26" FROM 486'-600' ROP 8.8 FPH. NO LOST CIRC, LAST SEVERAL DAYS. WATER WELL KEEPING UP W/RIG'S WATER NEEDS.

8-6-80 1,000' MADE 264' IN LODGEPOLE FORMATION. MW 9.1, VIS 49. PUMP PRESS 400, GPM 396, 397, ANNULAR VELOCITY 27/37. BIT NO HO#6, 26, GRANT, SOFT BUTTON, JETS 3-16, DEPTH IN 486', MADE 378' IN 36-1/2 HRS; 104 FT/HR. OPER REAM. RPM 100, WT ON BIT 30,000. TOTAL BHA 292.92'. OPENED 17-1/2" TO 26" FROM 600' TO 864' - NO PROBLEMS. HAVE FULL RETURNS, NOT LOOSING ANY MUD. EXPLORATION GEOLOGISTS PICKED TOP OF LODGEPOLE @ 720' FROM LOGS.

8-7-80 1,000' MADE 121' IN LODGEPOLE FORMATION. MW 9.0, VIS 46. PUMP PRESS 600, 60, GPM 396, 297, ANNULAR VELOCITY 27/37. BIT NO HO#6, 26, GRANT, SOFT BUTTON, JETS 3-16, DEPTH IN 486', DEPTH OUT 985', MADE 499' IN 46 HRS; 10.8 FT/HR. OPER PULLED. RPM 100, WT ON BIT 30,000. REAM 26" HOLE TO 985' CIRC COND HOLE. LOST 100 BBLS MUD PUMP 40 SK LCM PILL. POH. RIG CSG GREW. DROPPED 1ST JT. PULLED UP & LINE BROKE. POPPED COLLAR OFF OF 20". 20" JT STOPPED W/TOP 48' BELOW ROT TABLE. PRESENTLY LOCATING FISHING TOOLS.

8-8-80 1,000' MADE 0' IN LODGEPOLE FORMATION. MW 9.0, VIS 46. BIT NO HO-6, 26, GRANT SOFT BUTTON, DEPTH IN 486' DEPTH OUT 985', MADE 499' IN 46 HRS; 10.8 FT/HR. OPER DULL. WO/ORDERS AND TOOLS TO FISH 1 JT 20" CSG, HUNG W/TOP @ 48' KB. CUT OFF AND NIPPLE DOWN 30" CONDUCTOR AND ROTATING HEAD. USED 2 SHEETS METAL HOOKS TO LATCH ON TO 20" PIN AND THREAD. LIFTED FISH OUT W/3/4" CABLE THRU BALES. RIH W/26" HO TO 985', NO FILL. POH. R/U CSG CREW TO RUN 20" CSG. STRAP HELD GUIDE SHOE, 1 JT & BAKER STAB IN FLOAT COLLAR. HAD TROUBLE GETTING 20" SHOE BELOW 30" CONDUCTOR SHOE @ 73' KB. WORK SHOE BELOW 73' BUT FLOAT COLLAR STUCK @ 30" SHOE. WORK FLOAT COLLAR TO 81', COULD NOT GET DEEPER. CAN PICKUP W/O DRAG BUT CANNOT GO DEEPER. 20" CSG TONGS BROKE WHILE TRYING TO BREAK OUT 20" PIPE. PRESENTLY WAITING ON 20" TONGS TO PULL CSG.

FLUID SAMPLE DATA

Sampler Pressure _____ P.S.I.G. at Surface
Recovery: Cu. Ft. Gas _____
cc. Oil _____
cc. Water _____
cc. Mud 2150
Tot. Liquid cc. _____
Gravity _____ ° API @ _____ °F.
Gas/Oil Ratio _____ cu. ft./bbl.

	RESISTIVITY			CHLORIDE CONTENT
Recovery Water	____	@ ____	°F.	____ ppm
Recovery Mud	4.87	@ 58	°F.	1300 ppm
Recovery Mud Filtrate	____	@ ____	°F.	____ ppm
Mud Pit Sample	4.87	@ 58	°F.	1300 ppm
Mud Pit Sample Filtrate	____	@ ____	°F.	____ ppm

Mud Weight _____ vis _____ sec.

Date 10-17-80 Ticket Number 844464
Kind of D.S.T. CASED HOLE Halliburton Location ROCK SPRINGS
Tester MR. SUTTER Witness MR. FICKLIN
Drilling Contractor TRUE DRILLING COMPANY bj

EQUIPMENT & HOLE DATA

Formation Tested Jefferson & Big Horn
Elevation 7246' GL Ft.
Net Productive Interval - Ft.
All Depths Measured From Kelly Bushing
Total Depth 3269' Ft.
Main Hole/Casing Size 13 3/8"
Drill Collar Length 214' I.D. 2.25"
Drill Pipe Length 1899' I.D. 3.826"
Packer Depth(s) 2101' Ft.
Depth Tester Valve 2083' Ft.
Cushion TYPE AMOUNT Depth Back Pres. Valve Ft. Surface Choke 1/4" Bottom Choke .75"

Recovered 1050 Feet of mud
Recovered Feet of
Recovered Feet of
Recovered Feet of
Recovered Feet of

Meas. From Tester Valve

Remarks SEE PRODUCTION TEST DATA SHEET....

TEMPERATURE	Gauge No. 573 Depth: 2085' Ft.	Gauge No. 437 Depth: 2114' Ft.	Gauge No. Depth: Ft.	TIME (00:00-24:00 hrs.)
Est. °F.	72 Hour Clock	48 Hour Clock	Hour Clock	Tool Opened 0809
	Blanked Off NO	Blanked Off YES	Blanked Off	Opened Bypass 1605
Actual 62 °F.	Pressures	Pressures	Pressures	Reported Minutes / Computed Minutes

		Field	Office	Field	Office	Field	Office	Reported Minutes	Computed Minutes
Initial Hydrostatic		898	920.9	925	935.9			—	—
First Period	Flow Initial	240	225.1	225	260.8			21	
	Flow Final	460	473.2	473	485.8			299	
	Closed in	460	479.9	473	485.8			—	—
Second Period	Flow Initial	460	479.9	473	485.8			31	
	Flow Final	460	479.9	473	485.8			125	
	Closed in	460	479.9	473	488.6			—	—
Third Period	Flow Initial								
	Flow Final								
	Closed in								
Final Hydrostatic		898	915.2	915	934.0			—	—

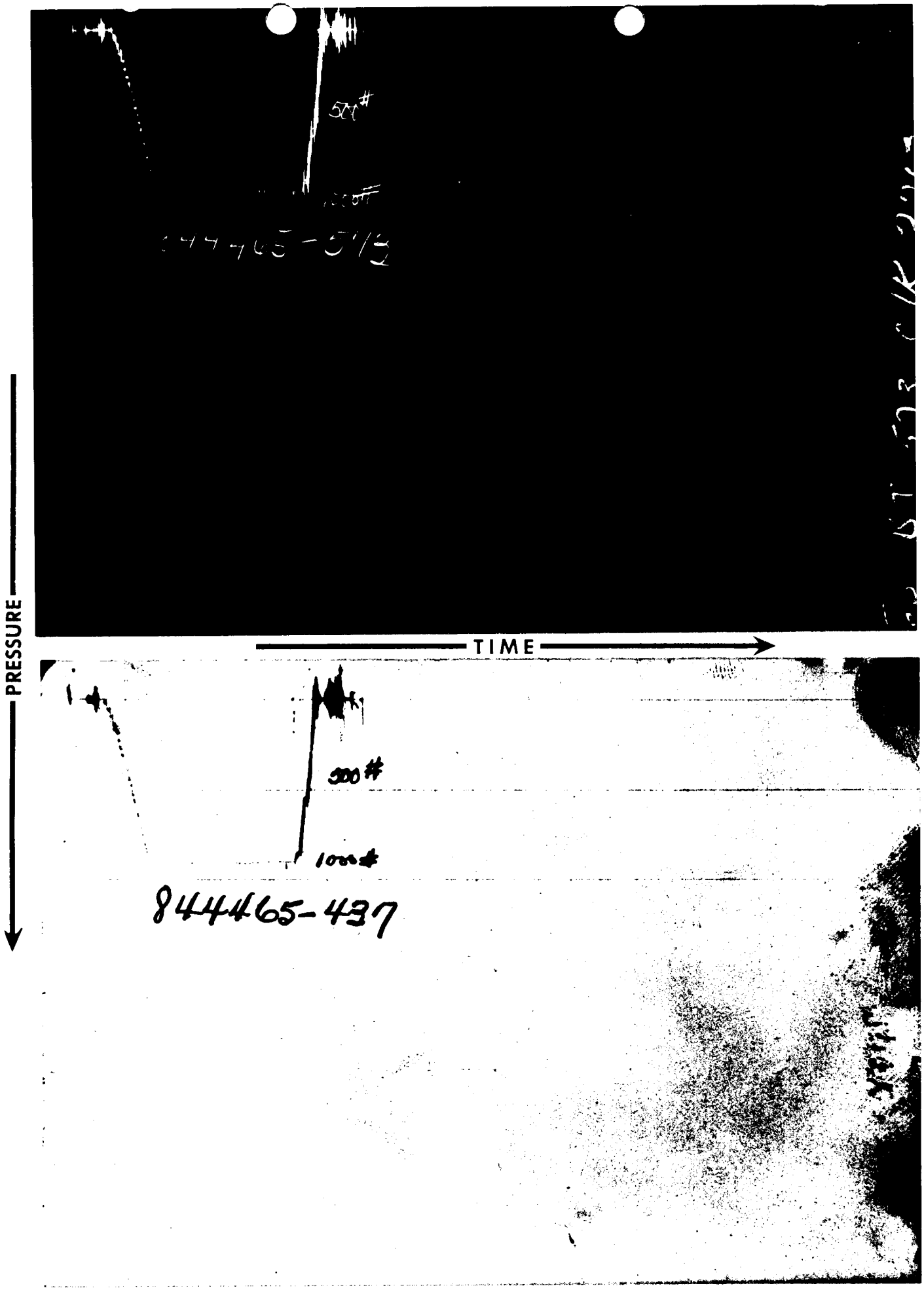
Legal Location Sec. - Twp. - Rng. 35 10N 7E
Lease Name SOUTH CRAWFORD MT.
Well No. 1-35
Test No. 1
Field Area SOUTH CRAWFORD MT.
Tested Interval 2101' to 3269'
County RICH
State UTAH
Lease Owner/Company Name MARATHON OIL COMPANY

FORM 181—R2 — PRINTED IN U.S.A.

FORMATION TEST DATA

LITTLE'S 111033 75C 2/80

9



Each Horizontal Line Equal to 1000 p.s.i.

Casing perfs. _____ Bottom choke .75" Surf. temp 40 °F Ticket No. 844464

Gas gravity _____ Oil gravity _____ GOR _____

Spec. gravity _____ Chlorides _____ ppm Res. _____ @ _____ °F

INDICATE TYPE AND SIZE OF GAS MEASURING DEVICE USED _____

Date Time a.m. p.m.	Choke Size	Surface Pressure psi	Gas Rate MCF	Liquid Rate BPD	Remarks
10-16-80					
0200					On location.
0300					Rigged up tools.
0700					Rigged up surface equipment.
0809					Opened dual CIP sampler with a strong
					blow off bottom of bucket.
0815					Started to die.
0822					Dead.
0830					Closed dual CIP sampler.
1329					Reopened tool.
					Dead.
1400					Closed tool - still dead.
1685					Opened bypass.
1830					Tools on bank.

FORM 182-R1—PRINTED IN U.S.A.

PRODUCTION TEST DATA

LITTLE'S 96672 9

TICKET NO. 844464

	O. D.	I. D.	LENGTH	DEPTH
Drill Pipe or Tubing	4.50"	3.826"	1899'	
Drill Collars				
Reversing Sub				
Water Cushion Valve				
Drill Pipe				
Drill Collars	7.00"	2.25"	214'	
Handling Sub & Choke Assembly				
~~Dual CIP Valve~~ X OVER	6.50"	2.28"	1.00'	
Dual CIP Sampler	5.00"	.75"	8.00'	2077'
Hydro-Spring Tester	5.00"	.75"	5.00'	2083'
Multiple CIP Sampler				
Extension Joint				
AP Running Case	5.00"	3.06"	4.10'	2085'
Hydraulic Jar	5.03"	1.75"	5.00'	
VR Safety Joint	5.00"	1.00"	2.78'	
Pressure Equalizing Crossover				
~~Packer Assembly~~ X OVER SUB	5.75"	2.00"	1.19'	
Distributor	5.75"	2.75"	1.00'	
~~Packer Assembly~~ X OVER SUB	5.75"	2.75"	1.00'	
Flush Joint Anchor				
Pressure Equalizing Tube				
Blanked-Off B.T. Running Case				
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly		(2200' to 3269' = 8 1/4" Open Hole)		
Distributor				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor	5.75"	2.87"	10'	
Blanked-Off B.T. Running Case	5.75"	2.75"	.72'	2114'
Total Depth				3269'

FORM 187-R2 — PRINTED IN U.S.A.

EQUIPMENT DATA

LITTLE'S 11103 (7[illegible]2/80

FLUID SAMPLE DATA

Sampler Pressure _____ P.S.I.G. at Surface
Recovery: Cu. Ft. Gas _____
cc. Oil _____
cc. Water _____
cc. Mud _____
Tot. Liquid cc. _____
Gravity _____ ° API @ _____ °F.
Gas/Oil Ratio _____ cu. ft./bbl.

	RESISTIVITY		CHLORIDE CONTENT
Recovery Water	____ @ ____	°F.	____ ppm
Recovery Mud	____ @ ____	°F.	____ ppm
Recovery Mud Filtrate	____ @ ____	°F.	____ ppm
Mud Pit Sample	____ @ ____	°F.	____ ppm
Mud Pit Sample Filtrate	____ @ ____	°F.	____ ppm

Mud Weight _____ vis _____ sec.

Date 10-20-80 Ticket Number 844465
Kind of D.S.T. CASED HOLE Halliburton Location ROCK SPRINGS
Tester MR. SUTTER Witness MR. FICKLIN
Drilling Contractor TRUE DRILLING COMPANY bj

EQUIPMENT & HOLE DATA

Formation Tested Jefferson Big Horn
Elevation 7246' Ft.
Net Productive Interval 1168' Ft.
All Depths Measured From Kelly Bushing
Total Depth 3269' Ft.
Main Hole/Casing Size 3 3/8"
Drill Collar Length 214' I.D. 2.75"
Drill Pipe Length 1859' I.D. 3.826"
Packer Depth(s) 2101' Ft.
Depth Tester Valve 2083' Ft.

Cushion TYPE AMOUNT Ft. Depth Back Pres. Valve Surface Choke .75" Bottom Choke .75"

Recovered Feet of No recovery reported....
Recovered Feet of
Recovered Feet of
Recovered Feet of
Recovered Feet of

Meas. From Tester Valve

Remarks SEE PRODUCTION TEST DATA SHEET....MISRUN....

TEMPERATURE	Gauge No. 573	Gauge No. 437	Gauge No.	TIME (00:00-24:00 hrs.)
	Depth: 2085' Ft.	Depth: 2114' Ft.	Depth: Ft.	
	24 Hour Clock	24 Hour Clock	Hour Clock	Tool Opened
Est. 62 °F.	Blanked Off NO	Blanked Off YES	Blanked Off	
Actual °F.	Pressures	Pressures	Pressures	Opened Bypass

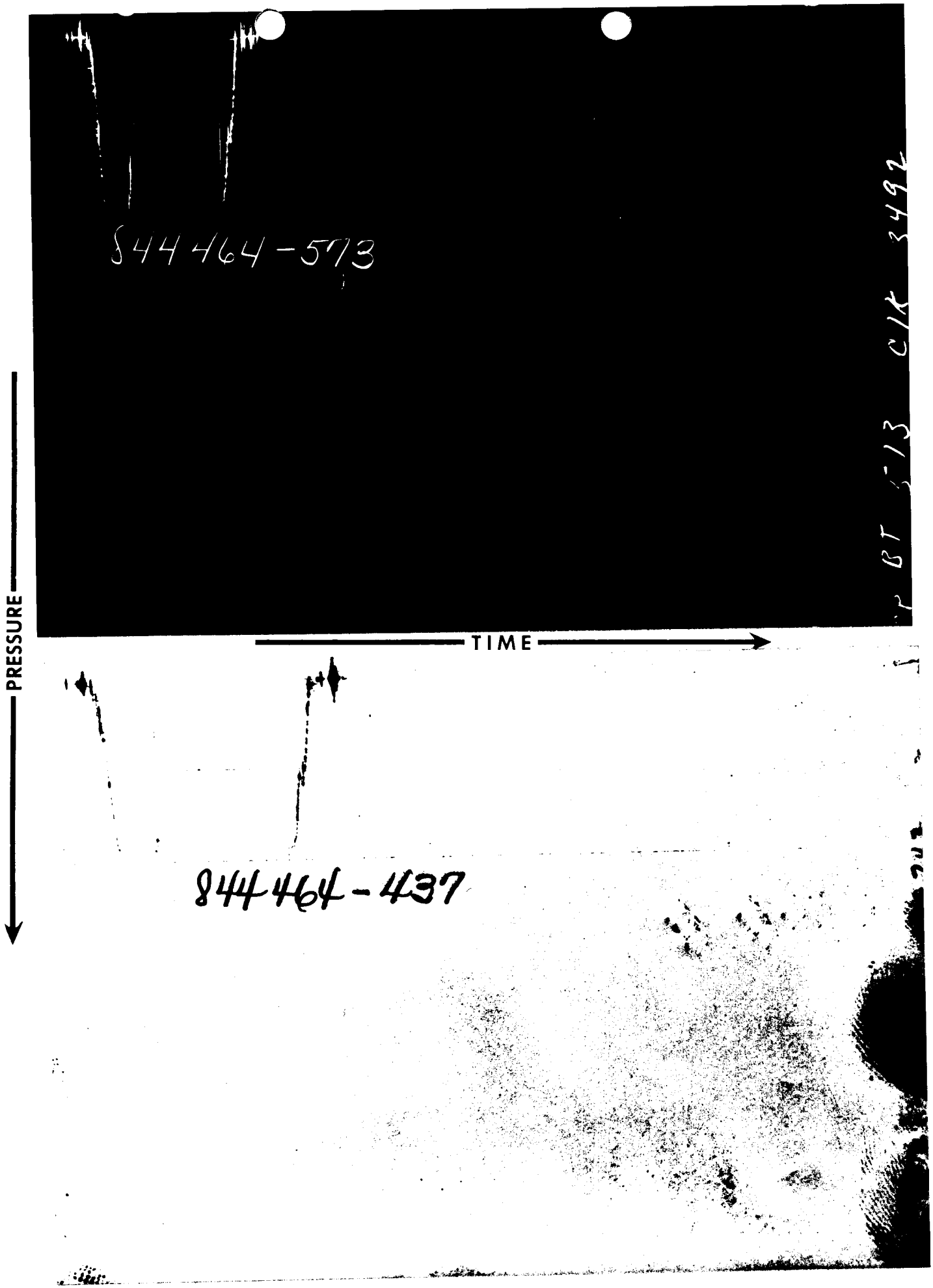
	Field	Office	Field	Office	Field	Office	Reported Minutes	Computed Minutes
Initial Hydrostatic	917	882.8	906	903.9			—	—
First Period Flow Initial								
First Period Flow Final								
First Period Closed in							—	—
Second Period Flow Initial								
Second Period Flow Final								
Second Period Closed in							—	—
Third Period Flow Initial								
Third Period Flow Final								
Third Period Closed in							—	—
Final Hydrostatic	917	882.8	906	903.9			—	—

Legal Location Sec. - Twp. - Rng. 35 10N 7E
Lease Name SOUTH CRAWFORD MT.
Well No. 1-35
Test No. 2
Field Area WILDCAT
County RICH
State UTAH
Tested Interval 2101' to 3269'
Lease Owner/Company Name MARATHON OIL COMPANY

FORM 101—R2 — PRINTED IN U.S.A.

FORMATION TEST DATA

LITTLE'S 111033 75C 2/80



Each Horizontal Line Equal to 1000 p.s.i.

Casing perfs. _____ Bottom choke .75" Surf. temp 50 °F Ticket No. 844465

Gas gravity _____ Oil gravity _____ GOR _____

Spec. gravity _____ Chlorides _____ ppm Res. _____ @ _____ °F

INDICATE TYPE AND SIZE OF GAS MEASURING DEVICE USED _____

Date Time a.m. p.m.	Choke Size	Surface Pressure psi	Gas Rate MCF	Liquid Rate BPD	Remarks
10-19-80					
1145					On location.
10-20-80					
0630					Rigged up surface equipment.
0730					Set packer.
0800					Hydrospring did not open. Tripped out
					of hole.

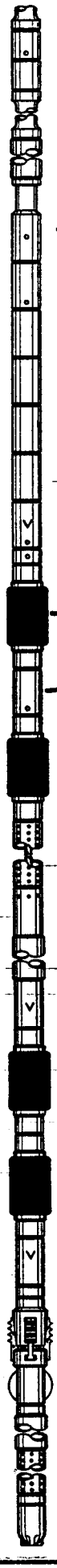
FORM 182-R1—PRINTED IN U.S.A.

PRODUCTION TEST DATA

LITTLE'S 96672 [illegible]/74

9

TICKET NO. 844465



	O. D.	I. D.	LENGTH	DEPTH
Drill Pipe or Tubing	4.50"	2.50"	1859'	
Drill Collars				
Reversing Sub				
Water Cushion Valve				
Drill Pipe				
Drill Collars	6.75"	2.25"	214'	
Handling Sub & Choke Assembly				
Dual CIP Valve ?	6.50"	2 7/8"	1.00'	
Dual CIP Sampler	5.00"	.75"		2077'
Hydro-Spring Tester	5.00"	.75"	1.5'	2083'
Multiple CIP Sampler				
Extension Joint				
AP Running Case	5.00"	3.06"	4.14'	2085'
Hydraulic Jar	5.03"	1.75"	5.00'	
VR Safety Joint	5.00"	1.00"	2.78'	
Pressure Equalizing Crossover				
Packer Assembly X OVER SUB	5.75"	2.00"	1.17'	
Distributor X OVER SUB	5.75"	2.75"	1.00'	
Packer Assembly	11.74"	2.44"	5.46'	2101'
Flush Joint Anchor				
Pressure Equalizing Tube				
Blanked-Off B.T. Running Case				
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Distributor				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor	5.75"	2.87"	10'	
Blanked-Off B.T. Running Case	5.75"	2.75"	4.52'	2114'
Total Depth				3269'

EQUIPMENT DATA

FLUID SAMPLE DATA

Sampler Pressure 5 P.S.I.G. at Surface
Recovery: Cu. Ft. Gas
cc. Oil
cc. Water
cc. Mud 10
Tot. Liquid cc.
Gravity ° API @ °F.
Gas/Oil Ratio cu. ft./bbl.

		RESISTIVITY		CHLORIDE CONTENT
Recovery Water	@ °F.			ppm
Recovery Mud	5.10 @ 68	°F.	1000	ppm
Recovery Mud Filtrate	@ °F.			ppm
Mud Pit Sample	3.60 @ 68	°F.	1450	ppm
Mud Pit Sample Filtrate	@ °F.			ppm

Mud Weight 8.5 vis 40 sec.

Date 10-21-80 Ticket Number 917530
Kind of D.S.T. CASED HOLE Halliburton Location ROCK SPRINGS
Tester MR. RIDER Witness MR. FINLELIN
Drilling Contractor TRUE DRILLING COMPANY #20 bc

EQUIPMENT & HOLE DATA

Formation Tested Jefferson Big Horn
Elevation 7246' Ft.
Net Productive Interval 1020' Ft.
All Depths Measured From Kelly Bushing
Total Depth 3267' Ft.
Main Hole/Casing Size 13 3/8"
Drill Collar Length 214' I.D. 2.50"
Drill Pipe Length 1859' I.D. 3.826"
Packer Depth(s) 2101' Ft.
Depth Tester Valve 2084' Ft.

Cushion TYPE AMOUNT Ft. Depth Back Pres. Valve Surface Choke .75" Bottom Choke .75"

					Meas. From Tester Valve
Recovered	1030	Feet of	Mud		
Recovered		Feet of	TOP	4.75 @ 68° 1200 ppm	
Recovered		Feet of	BOTTOM	5.10 @ 68° 1000 ppm	
Recovered		Feet of	MUD PIT	3.60 @ 68° 1450 ppm	
Recovered		Feet of	SAMPLER	5# PSI and 10 cc mud	

Remarks

SEE PRODUCTION TEST DATA SHEET.

Unable to increment periods due to clock stopping.....

TEMPERATURE	Gauge No. 573 Depth: 2086' Ft.	Gauge No. 437 Depth: 2115' Ft.	Gauge No. Depth: Ft.	TIME (00:00-24:00 hrs.)
	24 Hour Clock	24 Hour Clock	Hour Clock	Tool Opened 0735
Est. °F.	Blanked Off No	Blanked Off Yes	Blanked Off	
Actual 62 °F.	Pressures	Pressures	Pressures	Opened Bypass 1800

		Field	Office	Field	Office	Field	Office	Reported Minutes	Computed Minutes
Initial Hydrostatic		879	880.9						
First Period	Flow Initial	306	326.6					—	—
	Flow Final	421	413.8 ?	CLOCK STOPPED.....				439	
	Closed in	421	433.9 ?					51	
Second Period	Flow Initial	354	382.2 ?					—	—
	Flow Final	421	434.8 ?					27	
	Closed in	440	436.8 ?					108	
Third Period	Flow Initial							—	—
	Flow Final								
	Closed in								
Final Hydrostatic		879	878.1					—	—

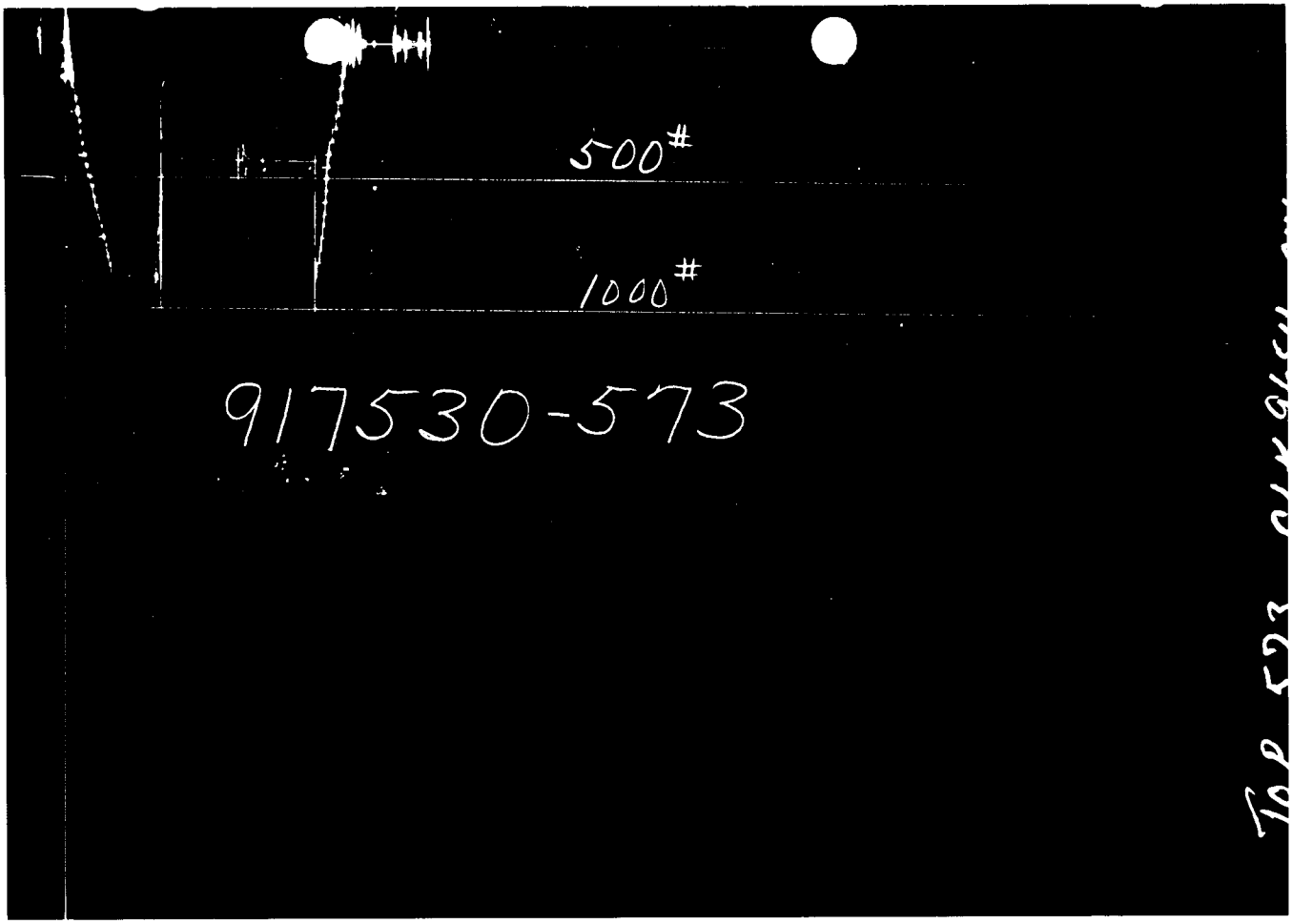
Legal Location Sec. - Twp. - Rng. 35 - 10N - 7E
Lease Name SOUTH CRAWFORD MT.
Well No. 1-35
Test No. 3
Field Area WILDCAT
Tested Interval 2101' - 3267'
County RICH
State UTAH
Lease Owner/Company Name MARATHON OIL COMPANY

FORM 181—R2 — PRINTED IN U.S.A.

FORMATION TEST DATA

LITTLE'S 11033 75C 2/80

9-C



PRESSURE

TIME

917530-437

Each Horizontal Line Equal to 1000 p.s.i.

Casing perfs. _____ Bottom choke .75" Surf. temp 50 °F Ticket No. 917530

Gas gravity _____ Oil gravity _____ GOR _____

Spec. gravity _____ Chlorides _____ ppm Res. _____ @ _____ °F

INDICATE TYPE AND SIZE OF GAS MEASURING DEVICE USED _____

Date Time a.m. p.m.	Choke Size	Surface Pressure psi	Gas Rate MCF	Liquid Rate BPD	Remarks
0001					On location
0230					Picked up tools
0315					Trip in hole
0729					Set packer
0735					Tool opened with a strong blow, to
					bottom of bucket
0740					Bottom of bucket
0745					Blow decreasing
0750					Very slight blow
0751					Blow died, shut in at surface. Broke
					off control head. Rigged up NOWSCO
0945					Pumped Nitrogen. Circulated mud out of
					drill pipe with coil tubing
1055					Stopped Nitrogen, bled off
1125					Pumped Nitrogen (Circulating)
1155					Stopped Nitrogen, bled off
1210					Shut in at surface
1230					Opened on surface, pumped Nitrogen (Circ.)
1420					Stopped Nitrogen, trip out tubing reel
1454					Closed tool
1545					Opened tool, strong blow, bottom of bucket
1604					Opened to pit on 5/8" choke
1609					Closed choke, opened bubble hose, no blow ~~(No gas to surface)~~
1612					Closed tool
1800					Pulled loose

FORM 182-RI—PRINTED IN U.S.A.

PRODUCTION TEST DATA

LITTLE'S 96672 8M 8/74

9

TICKET NO. 917530

	O. D.	I. D.	LENGTH	DEPTH
Drill Pipe or Tubing				
Drill Collars				
Reversing Sub				
Water Cushion Valve				
Drill Pipe	4½"	3.826"	1859'	
Drill Collars	7"	2.50"	214'	
Handling Sub & Choke Assembly	6½"	2.826"	1'	
Dual CIP Valve				
Dual CIP Sampler	5"	.87"	6.65'	2079'
Hydro-Spring Tester	5"	.75"	5'	2084'
Multiple CIP Sampler				
Extension Joint				
AP Running Case	5"	3.06"	4'	2086'
Hydraulic Jar	5"	1.50"	5'	
VR Safety Joint	5"	1"	2.50'	
Pressure Equalizing Crossover				
X over Sub	5 3/4"	2"	1.19'	
Packer Assembly				
X over Sub	5 3/4"	2.75"	1'	
Distributor				
Packer Assembly	13 3/8"	3"	5.46'	2101'
Flush Joint Anchor				
Pressure Equalizing Tube				
Blanked-Off B.T. Running Case				
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Distributor				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor	5 3/4"	2.87"	10'	
Blanked-Off B.T. Running Case	5 3/4"	3.06"	4'	2115'
Total Depth				3267'

EQUIPMENT DATA

Form 9–331
Dec. 1973

Form Approved.
Budget Bureau No. 42–R1424

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9–331–C for such proposals.)

1. oil well ☐ gas well ☐ other Wildcat
2. NAME OF OPERATOR
Marathon Oil Company
3. ADDRESS OF OPERATOR
P.O. Box 2659, Casper, Wyoming 82602
4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.) 2548' FSL & 512' FEL
AT SURFACE:
AT TOP PROD. INTERVAL:
AT TOTAL DEPTH:

5. LEASE
U 25097
6. IF INDIAN, ALLOTTEE OR TRIBE NAME
7. UNIT AGREEMENT NAME
8. FARM OR LEASE NAME
South Crawford Mountain
9. WELL NO.
1-35
10. FIELD OR WILDCAT NAME
Wildcat
11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 35, T10N, R7E
12. COUNTY OR PARISH Rich
13. STATE Utah
14. API NO.
43-033-30026
15. ELEVATIONS (SHOW DF, KDB, AND WD)
7246'GL, 7267'KB

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

	REQUEST FOR APPROVAL TO:	SUBSEQUENT REPORT OF:
TEST WATER SHUT-OFF	☐	☐
FRACTURE TREAT	☐	☐
SHOOT OR ACIDIZE	☐	☐
REPAIR WELL	☐	☐
PULL OR ALTER CASING	☐	☐
MULTIPLE COMPLETE	☐	☐
CHANGE ZONES	☐	☐
ABANDON*	☐	☐
(other) See Below		

(NOTE: Report results of multiple completion or zone change on Form 9–330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

RECEIVED
OCT 29 1980
DIVISION OF
OIL, GAS & MINING

PROGRESS REPORT
See Attached

From: 8-9-80 To: 10-10-80

Subsurface Safety Valve: Manu. and Type ______________________, Set @ ____________ Ft.

18. I hereby certify that the foregoing is true and correct
SIGNED H.E. Kaugh by D.J. Kowalski TITLE Drilling Supr. (Asst. Drilling Eng.) DATE 10/29/80

(This space for Federal or State office use)

APPROVED BY ____________________ TITLE ____________________ DATE ____________________
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

SOUTH CRAWFORD MTN #1-35 WELL HISTORY

8-9-80 1,000 MADE 0' IN LODGEPOLE FORMATION. MW 9.2, VIS 43. BIT NO HO#6, 26, GRANT, SOFT BUTTON, JETS 3-16, DEPTH IN 73, DEPTH OUT 104', MADE 31' IN 2 HRS; 15.5 FT/HR. OPER DULL. BIT NO HO#7, 26, GRANT, MILL TOOTH, JETS OPEN, DEPTH IN 104', MADE 151' IN 7 HRS; 21.6 FT/HR. OPER REAMING. RPM 90, WT ON BIT 2-5,000. DRILLING ASSEMBLY AS FOLLOWS:

COMPONENT	LENGTH	O.D.	I.D.
HO#6	5.80	26	
26 3 PT RMR	7.32	26	3
BIT SUB	5.60	9	3
SS	16	9	2-1/2
SS	15.86	9	2-1/2
2 DC'S	61.25	9	3
X-OVER	2.48	9	2-1/2
X-OVER	3.73	7	2-1/2

TOTAL BHA 118.04. WAIT ON 20" COLLAR TONGS UNTIL 12:45 P.M. BACK OUT & L/D JTS OF CSG ON CATWALK. MADE UP 26" HO PLUS 26 3 PT ROLLER RMR & REAMED 73' TO 104', VERY ROUGH. CHANGE OUT HO#6 FOR HO#7 W/MILLTOOTH CUTTERS, REAM 104' TO 255'. ROUGH AT TIMES.

8-10-80 1,000 MADE 0' IN LODGEPOLE FORMATION. MW 8.8, VIS 33. PUMP PRESS 100, GPM 371, ANNULAR VELOCITY 13/12. BIT NO HO#7, 26, GRANT, MILLTOOTH, JETS 3-16, DEPTH IN 104', DEPTH OUT 985', MADE 881' IN 21-1/2 HRS; 41 FT/HR. BIT NO HO#7, 26, GRANT, MILL TOOTH, JETS 3-16, DEPTH IN 73', MADE 347 IN 5-1/2 HRS; 63.1 FT/HR. OPER REAMING. RPM 90, WT ON BIT 5,000. DRILLING ASSEMBLY AS FOLLOWS:

COMPONENT	LENGTH	O.D.	I.D.
HO#17-1/2 X 26	5.80	26	
3 PT ROLLER RMR	7.03	26	3
3 PT ROLLER RMR	7.32	26	3
BIT SUB	5.60	9	3
2 DC'S	61.25	9	3
SS	16.00	9	2-1/2
3 DC'S	93.14	7	2-1/2
X-OVER	4.13	9	3
3 DC'S	93.14	7	2-1/2
X-OVER	3.73	7	2-1/2

TOTAL BHA 293.35. REAM 26" TO 985'. POH. L/D BAD SHOCK SUB. PIGGY BACK 2-3PT ROLLER RMRS ABOVE 26" HO. RIH TO BOTTOM OF 30" CONDUCTOR. REAMED VERY ROUGH @ 30" SHOE. PRESENTLY RMG @ 420', NOT LOSING ANY MUD.

8-11-80 1,000 MADE 0' IN LODGEPOLE FORMATION. MW 9.2, VIS 42. PUMP PRESS 100, GPM 371, ANNULAR VELOCITY 13/12. BIT NO HO#7, 26, GRANT, MILLTOOTH, JETS 3-16, DEPTH IN 73', DEPTH OUT 725', MADE 652' IN 10-3/4 HRS; 60.7 FT/HR. OPER PULLED. BIT NO HO#8, 26, GRANT, JETS 3-16, DEPTH IN 725' DEPTH OUT 985', MADE 260' IN 8-1/2 HRS; 30.5 FT/HR. OPER PULLED. RPM 60-40, WT ON BIT 5,000. TOTAL BHA 293.35. REAM 26" HOLE 420' TO 725' W/2 PIGGY BACK ROLLER RMRS. POH. RIH #8 HO & RR 17-1/2" BIT. REAM 26" - 725' TO 985' VERY HARD. POH, HOLE OK. RIG CSG CREW PRESENTLY RUNNING 20" CASING. RIG REPAIR: PZ9 PUMP. PRESENT OPER RUNNING CSG.

SOUTH CRAWFORD MTN #1-35 WELL HISTORY

8-12-80 1,000 MADE 0' IN LODGEPOLE FORMATION. ELEV WAS SURVEYED AUG 6, 1980. GL 7243.5', KB 7263.7'. FINISH RUNNING 20" CSG. RAN 2U JTS & GUIDE SHOE, STAB IN FLOAT COLLAR. RAN 1 CMT BASKET, WELDED SHOE, FLOAT COLLAR AND TOP JT CSG. HAD TO WASH LAST 8' TO BOTTOM, CSG LANDED @ 963'. FLOAT COLLAR @ 920' AND BASKET @ 163'. RAN 5" DP STINGER & STAB IN TO FLOAT COLLAR. R/U DOWELL & PUMP, 10 BBLS WTR AHEAD, PUMP 1460 SKS 65/35 POZ-MIS, W/1/4" SK CELLO-FLAKE & 6% GEL. FOLLOWED W/600 SKS CLASS "G" W/1/4" SK CELLO-FLAKE & 2% CACL2. DISPL DP STINGER W/MUD. HAD GOOD RETURNS THROUGHOUT JOB W/APPROX 100 BBLS/CMT TO SURFACE. CIP @ 8:06PM, 8-11-80. POH W/DP STINGER & JET CMT OUT OF CELLAR WHILE WOC L/D EXCESS DP. DUMP & CLEAN MUD PITS.

8-13-80 1,000 MADE 0' IN LODGEPOLE FORMATION. MW 8.7, VIS 38, WL 52, PH 12, PV 8, YP 12, 3/7 GELS, 2.8% SOLIDS, 350 PPM CHLORIDE, 80 CALCIUM. BIT NO 8, 17-1/2, REED, YP21, JETS 16-16-16, DEPTH IN 918'. DRILLING ASSEMBLY AS FOLLOWS:

COMPONENT	LENGTH	O.D.	I.D.
BIT	1.00	17-1/2	
JUNKSUB	3.02	7-3/8	2-1/2
BITSUB	5.60	9	3
8 DC'S	247.78	9	3
		7	2-1/2

TOTAL BHA 257.42. CUT OFF 20" WELD ON FLANGE. N/U DRLG SPOOL, HYDRIL & ROTATING HEAD BROKE DOWN 26" HO'S AND 2-3PT RMRS. PRESS TEST HYDRIL TO 500 PSI FOR 30 MIN, OK. TOP OF CMT 917.84'.

8-14-80 1,005' MADE 5' IN LODGEPOLE FORMATION. MW 8.4, VIS 32, WL 28.8, PH 12.5, PV 7, YP 7, 4/7 GELS, 6% SOLIDS, 500 PPM CHLORIDE, 0 CALCIUM. PUMP PRESS 900, GPM 371, ANNULAR VELOCITY 32/39. BIT NO 6, 17-1/2, REED, YP21, JETS 16-16-16, DEPTH IN 918', DEPTH OUT 992'. OPER DRLG CMT & JUNK. BIT NO 7, 12-1/4, SEC, DMN, JETS 13-13-13, DEPTH IN 1,000', MADE 5' IN 1-1/2 HRS; 3.3 FT/HR. OPER DULL. RPM 60, WT ON BIT 10,000. DRILLING ASSEMBLY AS FOLLOWS:

COMPONENT	LENGTH	O.D.	I.D.
BIT	1.00	12-1/4	
JUNKSUB	3.02	10-1/2	2-1/2
BITSUB	5.60	9	3
4 DC'S	121.43	9	3
4 DC'S	121.34	7	2-1/2

TOTAL BHA 252.39. DRILL CMT & JUNK TO 993'. TRIP OUT INSPECT DC'S. ALL OK. RIH W/MANGET. POH W/MAGNET. GOT APPROX 3 HANDFULS OF IRON, RIH W/MAGNET. POH MAGNET. APPROX 1 HANDFUL JUNK, RIH W/BIT #7, DRILL 8' OF CMT. START DRLG FORMATION, FOUND MORE JUNK. HAD TROUBLE W/PUMPA. POH TO WORK ON PUMPS.

SOUTH CRAWFORD MTN #1-35 WELL HISTORY

8-15-80 1,010' MADE 5' IN LODGEPOLE FORMATION. MW 8.6, VIS 42. PUMP PRESS 900, GPM 371, ANNULAR VELOCITY 32/39. BIT NO 7, 12-1/4, SEC, DMN, JETS 13-13-13, DEPTH IN 1,000', DEPTH OUT 1,005', MADE 5' IN 1-1/2 HRS; 3.3 FT/HR. OPER DULL. BIT NO 8, 12-1/4, REED, Y21, JETS 13-13-13, DEPTH IN 1,005', MADE 5' IN 2 HRS; 2.5 FT/HR. OPER MIX MUD. RPM 60, WT ON BIT 10-20,000. TOTAL BHA 252.39'. POH W/BIT #7 WHILE WORKING ON PUMPS. REPAIRED PUMPS & UNPLUG FLOWLINE. RIH W/11" MAGNET & WORK MAGNET ON BTM. POH. RECOVERED 3 HANDFULS OF JUNK INCLUDING STRAPS OFF HO'S, TEETH, & BUTTONS. RIH W/MAGNET, WORK ON BTM., & POH. RECOVERED SMALL AMOUNT OF METAL SHAVINGS. RIH W/BIT #8. DRLG 1,005'-1,010'. LOST CIRC - 300 BBLS. MIXED 400 BBLS OF MUD @ 42 VISC & 25% LCM. PUMPED MUD W/NO RETURNS. PRESENTLY MIXING MUD.

SOUTH CRAWFORD MTN #1-35 WELL HISTORY

8-16-80 1,018' MADE 8' IN LODGEPOLE FORMATION. R/U AIR EQUIPMENT, TIH W/FLAT BOTTOM MILL. BREAK CIRCULATION WITH AIR & MUD, MILL ON JUNK AND BIT BEARINGS, TIH W/BIT #9, DRLG AHEAD.

8-17-80 1,153' MADE 135' IN LODGEPOLE FORMATION. DEV DEPTH 1,039' INC 3/4°, DEPTH 1,070' INC 3/4°, DEPTH 1,132' INC 3/4°. DRILL AHEAD WITH NO RETURNS. WILL SWITCH TO AIR.

8-18-80 1,360' MADE 207' IN LODGEPOLE FORMATION. DEV DEPTH 1,256 INC 1/2°, DEPTH 1,360 INC 0°. DRLG AHEAD W/NO RETURNS, PMPG WTR & AIR. NO RETURNS W/AIR MIST, DRLG AHEAD.

8-19-80 1,382' MADE 22' IN LODGEPOLE FORMATION. DRILL TO 1,382' W/AIR MIST W/NO RETURNS. POH. RIH TO 1,240', PUMP 100 SKS. CMT. PULL 5 STNDS. TRIP BACK 5 STNDS CHECK FOR PLUG. NO PLUG, RIG DOWELL, PUMP 100 SKS CMT. PULL 5 STNDS PIPE. WOC.

8-20-80 1,382' MADE 0' IN LODGEPOLE FORMATION. TIH 5 STNDS, NO CMT PLUG. POH 5 STNDS, PUMP 200 BURLAP BAGS DOWN HOLE, PUMP 200 BBLS 45 VISC, 25% LCM. PUMP 150 BURLAP BAGS, PUMP 20 BBLS MUD. PUMP 150 BURLAP BAGS DOWN HOLE, PUMP 400 SKS WITH 10# SK CALITE. DP @ 960' WHEN PUMP CMT. POH, WOC.

8-21-80 1,435' MADE 53' IN LODGEPOLE FORMATION. RIH TAG CMT @ 881', RIH W/BIT DRILL CMT W/GOOD RETURNS, DRLG W/AIR MIST. DRILL NEW HOLE W/GOOD RETURNS TO 1,410'. LOST AIR MIST RETURNS @ 1,410'. DRILL TO 1,435' W/NO RETURNS.

8-22-80 1,601' MADE 166' IN LODGEPOLE FORMATION. DRILL W/NO RETURN TO 1,507'. CIRC POH FOR LOGS. RAN DIP METER, DI, SFL, GR, ADC. TIH. DRILL W/AIR MIST W/NO RETURNS. DRILL TO 1,601'. TWIST OFF DC'S. POH.

SOUTH CRAWFORD MTN #1-35 WELL HISTORY

8-23-80 1,695' MADE 94' IN LODGEPOLE FORMATION. DEV DEPTH 1,674, INC 1/2%. POH TWIST OFF @ X-OVER ,TIH. FISH. GOT HOLD OF FISH, POH LAY DOWN FISH. TIH W/BIT #4 RR. DRILL TO 1,695', CIRC POH FOR LOGS.

8-24-80 1,695' MADE 0 IN LODGEPOLE FORMATION. FINISHED RUNNING LOGS. RIH OPEN-ENDED TO 960' & PUMPED 400 BURLAP SACKS FOLLOWED W/400 SKS OF W/12% COALITE. POH. WOC - 6 HRS. RIH & TAGGED CEMENT @ 776'. PRESENTLY DRLG CMT @ 1,030'.

8-25-80 1,695' MADE 0 IN LODGEPOLE FORMATION. DRLD CMT TO 1,049' & LOST CIRC. NO CMT FROM 1,049' TO 1,107' - SET 20,000 WOB - HARD PLUG. POH & RIH W/ OEDP TO 1,090'. PUMPED W/DOWELL 100 SKS OF 10#/SK COALITE. POH. WOC-4 HRS. RIH W/BIT TAG CMT. 1,107'. POH. RIH W/OEDP TO 1.090' & PUMPED 120 BURLAP SACKS - PLUGGED BTM JT OF DP. ROUND TRIP DP TO UNPLUG. SPOTTED DP @ 1.090' & DOWELL PUMPED 150 SKS OF 10#/SK COALITE. CIP @ 4:30 PULLED 5 STDS & WOC.

8-26-80 1,695' MADE 0' IN LODGEPOLE FORMATION. RIH W/BIT. UNPLUGGED FLOATLINE. FINISH RIH & TAG TOP OF CMT @ 870'. DRLD VERY HARD CMT FROM 879' - 1,054' AT 1,054' LOST ALL RETURNS, BUT STILL ON HARD CMT, POH. DROPPED 6 BALES OF STRAW. 100 PAPER MUD SACKS & 45 BURLAP SACKS IN HOLE. FILLED HOLE W/WATER. RIH W/BIT & TAGGED BRIDGE @ 500'. SLOWLY PUSHED LCM DOWN HOLE - COULD NEVER FILL W/WATER. DIDN'T TAG BRIDGES @ 1,054' OR 1,107'.

8-27-80 1,695' MADE 0' IN LODGEPOLE FORMATION. FINISHED PUSHING LCM TO BOTTOM-TAGGED @ 1,639'. PUMPED 600 BURLAP SACKS W/DP @ 1,041'-BUILT GOOD BRIDGE-WOULD TAKE WEIGHT. DOWELL PUMPED 200 SKS OF CLASS "G" + 1% D-65 POH, WOC 8 HRS. RIH & TAGGED SOFT CEMENT OR BURLAP. P/U 90' & CIRC & WOC.

8-28-80 1,695' MADE 0' IN LODGEPOLE FORMATION. WOC-6HRS. DRLD SKS & SOFT CMT FROM 764'-811', BUT CMT STILL SOFT. POH W/17-1/2" BIT. RIH W/12-1/4 BIT. WASHED & REAMED 843'-915' & DID NOT TOUCH ANYTHING. TAGGED @ 915' - SET 12,000# WOB & CMT WASHED AWAY. P/U TO 811' & CIRC 30 MIN. WOC @ 0600 HRS - HOLE STNADING FULL W/WTR.

8-29-80 1,695' MADE 0' IN LODGEPOLE FORMATION. WASHED & REAMED SOFT CMT FROM 915'-939'. WOC. WASHED FROM 939'-970', W/NO CMT IN SAME SPOTS. CMT VERY SOFT @970'-WOULD WASH AWAY. SOFT CMT TO 1000'. SET 34,000# WOB & CMT DID NOT WASH AWAY. CIRC 1 HR. POH. DRLD CMT FROM INSIDE 20" CASING & CLEANED OUT TO 1,001'. POH. RIH W/OEDP. DOWELL PUMPED 200 SCKS OF CLASS "G" @ 15.7 PPG W/FULL RETURNS. CIP @ 1:30 AM 8/29/80. PRESENTLY WOC.

SOUTH CRAWFORD MTN #1-35 WELL HISTORY

8-30-80	1,695'	MADE 0' IN LODGEPOLE FORMATION. RIH W/17-1/2" BIT & TAGGED CMT @ 880'. CIRC & COND MUD. DRLD 880'-888'
8-31-80	1.695'	MADE 0' IN LODGEPOLE FORMATION. DRLD CMT 888' - 897' DRLD CMT 897'-970' HARD CMT. POH. L/D EXCESS DP & 4-9" DC'S. P/U DYNA-DRILL, BENT SUB, MONEL, ETC & RIH. PRESENTLY RUNNING GYRO ON WIRELINE TO ORIENT FOR KICKOFF FROM PBTD @ 970'.
9-1-80	1001'	MADE 31' IN BRAZER FORMATION. DEV DEPTH 928', INC 1-1/4°, DIRECTION N40°W, DEV DEPTH 959', INC 3/4°, DIRECTION N23°W. RAN GYRO SURVEYS & ORIENTED DYNA-DRILL. BEGIN KICKOFF TO SIDETRACK WELL @ 970'. DYNA-DRILL W/5-10,000# WOB FROM 970'-988'.
9-2-80	1,024'	MADE 23' IN BRAZER FORMATION. RAN GYRO SURVEY ON WIRELINE TO ORIENT DYNA-DRILL. DRLD 1,001'-1,024'.
9-3-80	1,030'	MADE 6' IN BRAZER FORMATION. DEV DEPTH 988', INC 2-1/4°. RUN SURVEY, HOLE GOING EAST, POH TO RUN CMT PLUG, PICKED UP 27 JTS OF PIPE OFF RACK & 2 STANDS OUT OF DERRICK & CMTD W/200 SKS CLASS "G", 2% CLCL2, POH, CMTD @ 1,027'.
9-4-80	975'	MADE 0' IN BRAZER FORMATION. WOC 19 HRS, DRILL 3' CMT-VERY SOFT, WOC 33 HRS, DRLD 6' CMT IN 40 MIN.
9-5-80	1,000'	MADE 25' IN BRAZER FORMATION. TRIP OUT, PICK UP DYNA-DRILL, BENT SUB & MONEL, RUN GYRO ON WIRE-LINE & ORIENT DYNA-DRIL, DYNA-DRILL TO WEST, (CEMENT PLUG SET 44-1/2 HRS BEFORE DYNA-DRILLING).

SOUTH CRAWFORD MTN #1-35 WELL HISTORY

9-6-80	1,017'	MADE 17' IN BRAZER FORMATION. DEV DEPTH 998',INC 2-1/4°, DIRECTION N80°W. TRIP TO LAY DOWN DYNA-DRIL, TIH W/BIT & MONEL TO GET BELOW CSG W/MONEL TO DETERMINE DIRECTION, MADE SECOND TRIP TO PICK UP DYNA-DRIL.
9-7-80	1,062'	MADE 45' IN BRAZER FORMATION. DEV DEPTH 1,020', INC 3-3/4°, DIRECTION S88°W. DYNA-DRILL 8-3/4" KICK-OFF HOLE TO 1,062', POH, PICK UP 12-1/4" HOLE OPENER, OPENING HOLE @ 1,017 TO 12-1/4".
9-8-80	1,095'	MADE 33' IN BRAZER FORMATION. DEV DEPTH 1,057', INC 5-1/4°, DIRECTION S88°W. OPEN 8-3/4" TO 12-1/4" TO 1,038'. POH FOR NEW HOLE OPENER. STRAP-WELD 8-3/4" PILOT BIT. RIH & OPEN TO 1,062'. POH. RIH W/BYNA DRIL & DRILL 12-1/4" HOLE 1,062'-1,095'.
9-9-80	1,258'	MADE 163' IN LODGEPOLE FORMATION. DEV DEPTH 1,082', INC 6-1/2°, DIRECTION S 87°W, DEV DEPTH 1,147', INC 10-1/2°, DIRECTION N 88°W, DEV DEPTH 1,210', INC 12-1/4°, DIRECTION N 88°W. DYNADRILLED 1,095'-1,258'.
9-10-80	1,376'	MADE 118' IN LODGEPOLE FORMATION. DEV DEPTH 1,241' INC 15-1/4°, N89°W, DEV DEPTH 1,302' INC 18-3/4°, N90°W, DEV DEPTH 1,334' INC 21°, N89°W. DYNA-DRILLED 1,258'-1,283'. POH. RIH & DYNA-DRILLED 1,283'-1,376'/
9-11-80	1,376'	MADE 0' IN LODGEPOLE FORMATION. POH, CHANGE BHA, TIH, REAM TO 1,192', TWISTED OFF, POH, TIH W/OVERSHOT & GRAPPLES GOT HOLD OF FISH, POH, LAY DOWN BAD JT, TIH, REAM TO 1,376'.
9-12-80	1,520'	MADE 144' IN LODGEPOLE FORMATION. DEV DEPTH 1,360' INC 23°, N86°W, DEV DEPTH 1,421' INC 25-1/2°, N85°W. DRLD TO 1,452' DRLG AHEAD SLOW.

SOUTH CRAWFORD MTN #1-35 WELL HISTORY

9-13-80	1,530'	MADE 10' IN LODGEPOLE FORMATION. DRLD 1,520'-1,530'. POH. CHANGED BHA. RIH W/BIT #19 PRESENTLY REAMING @ 1,500'.
9-14-80	1,670'	MADE 140' IN LODGEPOLE FORMATION. DEV DEPTH 1,569' INC 26-3/4°, N73°W. REAMED 1,500'-1,530'. DRLD W/AIR MIST W/NO RETURNS 1,530'-1,670'.
9-15-80	1,909'	MADE 239' IN LODGEPOLE FORMATION. DEV DEPTH 1,662' INC 26°, N74°W, DEV DEPTH 1,784' INC 26°, N72°W, DEV DEPTH 1,909' INC 25°, N72°W. DRLD 1,670'-1,909'. PRESENTLY ATTEMPTING TO FILL HOLE W/MUD & 20% LCM TO LOG.
9-16-80	1,986'	MADE 77' IN THREE FORKS FORMATION. RAN DIL.GR & DIPMETER. CHANGED BHA. RIH & DRLD. 1,909'-1,986'.
9-17-80	2,250'	MADE 264' IN THREE FORKS FORMATION. DEV DEPTH 2,133' INC 25-1/2°. DRLD 1,986'-2,164'. POH. UNPLUGGED DC'S. CHANGED BHA. RIH. DRLD 2,164'-2,250'.
9-18-80	2,250'	MADE 60' IN THREE FORKS FORMATION. FIN LOGGING W/DIPMETER, DIL, SONIC LOGS. CHANGED BHA. RIH. OPENING 12-1/4" TO 17-1/2" @ 980'. PRESENTLY OPENING TO 17-1/2" @ 1,040'.
9-19-80	2,250'	MADE 450' IN THREE FORKS FORMATION. OPENING 12-1/4" HOLE TO 17-1/2" @ 1,490'.

SOUTH CRAWFORD MTN #1-35 WELL HISTORY

9-20-80	2,250'	MADE 165' IN THREE FORKS FORMAITON. OPEN HOLE TO 17-1/2" TO 1,655'. POH, CHANGED BHA, TIH, START REAMING HOLE @ 980', REAM OLD HOLE TO 1,407' W/3 PT REAMER IN BHA.
9-21-80	2,250'	MADE 0' IN THREE FORKS FORMATION. REAM OLD 17-1/2" HOLE TO 1,485', TIH W/12-1/4" BIT TO CLEAN OUT PILOT HOLE FROM 1,485'-1,710'.
9-22-80	2,250'	MADE 153' IN THREE FORKS FORMATION. POH. CHANGED BHA TO RUN 12-1/4" PILOT BIT IN FRONT OF 17-1/2" HO. RIH. OPENED 12-1/4" TO 17-1/2" FROM 1,655'-1,808'. PRESENTLY CIRC & BUILDING MUD VOLUME.
9-23-80	2,250'	MADE 95' IN THREE FORKS FORMATION. DEV DEPTH 1,710' INC 26-1/2°, CHECK SHOT. OPENED 12-1/4" TO 17-1/2" 1,808'-1,839'. BUILD GEL-MUD VLOUME. OPENED 12-1/4" TO 17-1/2" 1,839'-1,903'.
9-24-80	2,250'	MADE 187' IN THREE FORKS FORMATION. OPENING 12-1/4" TO 17-1/2" FROM 1,903'-2,090'.
9-25-80	2,250'	MADE 160' IN THREE FORKS FORMATION. OPEN 12-1/4" TO 17-1/2" FROM 2,090'-2,250'. CIRC & CONDITION.
9-26-80	2,250'	MADE 0' IN THREE FORKS FORMATION. POH. N/D HYDRIL & ROTATING HEAD. CUTOFF 20". WELDED ON 20" SOW. WELLHEAD W/BASE PLATE LANDED ON 30" CONDUCTOR TESTED STARTING HEAD.RIH W/HO #13. CIRC W/AIR & MUD & SPOT 43 VIS MUD W/10% LCM. POH & R/U CSG CREW.

SOUTH CRAWFORD MTN #1-35 WELL HISTORY

9-27-80	2,250'	MADE 0' IN THREE FORKS FORMATION. CUTOFF CSG & N/U. R/U CSG CREW. CMTD CSG W/400 SKS OF 50/50 POZ W/ 1/4#/SK FLOCELE, FOLLOWED BY 650 SKS OF CLASS "G" W/2% CACLS $ 1/4#/SK FLOCELE. FLOAT EQUIP CHECKED OK. WOC 24.
9-28-80	2,250'	MADE 0' IN THREE FORKS FORMATION. FIN N/U BOP. TEST STACK TO 2,000 PSI-TEST HYDRIL TO 1,500 PSI.
9-29-80	2,259'	MADE 9' IN THREE FORKS FORMATION. P/U BHA & RIH, TEST CSG TO 1,500 PSI DRILL CMT FROM 2,148'-2,250', CIRC, POH, CHANGE BHA, RIH, DRILL 9' NEW HOLE & CIRC.
9-30-80	2,374'	MADE 115' IN THREE FORKS FORMATION. DEV DEPTH 2,248' INC 27°, DEV DEPTH 2,281' INC 28°, N83°W, DEV DEPTH 2,313' INC 29°, N83°W. CIRC. POH. CHANGE BHA. RIH W/DYNA-DRILL.
10-1-80	2,639'	MADE 162' IN JEFFERSON FORMATION. DEV DEPTH 2,375' INC 31°, N89°W, DEV DEPTH 2,437' INC 32-1/2°, S87°W, 2,468' INC 33-1/2°, S89°W. DRILL FROM 2,374'-2,536'. TRY TO SURVEY @ 2,505' GOT STUCK, JARRED FREE, CIRC & TRIP OUT.
10-2-80	2,573'	MADE 37' IN JEFFERSON FORMATION. P/U DYNA-DRILL, BENT SUB & BIT #20, TRIP IN, SURVEY NO ORIENTATION. CIRC & SURVEY AGAIN, NO ORIENTATION - TRIP OUT. CHANGE DUMP VALVE, TRIP IN, CIRC & SURVEY, ORIENT. DRLG AHEAD NO PROBLEMS.
10-3-80	2,645'	MADE 72' IN JEFFERSON FORMATION. DEV DEPTH 2,530' INC 36°, S88°W, DEV DEPTH 2,563' INC 36-3/4°, S85°W, DEV DEPTH 2,626' INC 37°, S77°W. POH W/DYNA-DRILL.

SOUTH CRAWFORD MTN #1-35 WELL HISTORY

10-4-80 2,757' MADE 112' IN JEFFERSON FORMATION. TIH TO SHOE. RIH & DRILL AHEAD BIT HEADED 41-1/4° S80°W AT TD. (WIRELINE SURVEYS MISRUN LAST 2 RUNS).

10-5-80 2,892' MADE 135' IN JEFFERSON FORMATION. DYNA-DRILL W/STEERING TOOL TO 2,836', POH, PICK UP PACKED BHA, TIH, REAM TO BTM, DRILLING AHEAD NO PROBLEMS.

10-6-80 3,269' MADE 377' IN BIG HORN FORMATION. DEV DEPTH 2,917 INC 46° S85°W, DEV DEPTH 3,011' INC 45° S86°W, DEV DEPTH 2,104' INC 44° S86°W, DEV DEPTH 3,229 INC 43° S86°W. DRILL TO 3,269', RUN SURVEY, STUCK PIPE (10' OFF BTM), WORK PIPE & CIRC.

10-7-80 3,269' MADE 0' IN BIG HORN FORMATION. CON'T TO WORK STUCK PIPE. MIXED & SPOTTED 50 BLLS DIESEL W/90 GALS OF EZ SPOT. JARRING ON STUCK PIPE. NO MOVEMENT.

10-8-80 3,269' MADE 0' IN BIG HORN FORMATION. WORKED STUCK DP-NO MOVEMENT. P/U KELLY CIRC-WORK DP. ATTEMPT TO BACK OFF. BACKED-OFF 6 JTS BELOW RT. POH & CHECK FJ, RIH & SCREWED IN @ 180'. NOW CIRC PRIOR TO BACKOFF.

10-9-80 3,269' MADE 0' IN BIG HORN FORMATION. BACKED OFF RIGHT BELOW JARS. TOP @ 2,675'. TOH. TIH. SCREW INTO FISH. CIRC, & MIX BLACK MAGIC. PUMP SAME IN HOLE. LET SOAK IN & JAR.

10-10-80 3,269' MADE 0' IN BIG HORN FORMATION. JARRING ON FISH, FISH HAS NOT MOVED, WILL CONT TO LET SOAK FOR ANOTHER 24 HRS.

Form 9–331
Dec. 1973

Form Approved.
Budget Bureau No. 42–R1424

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9–331–C for such proposals.)

1. oil well ☐ gas well ☐ other Wildcat
2. NAME OF OPERATOR: Marathon Oil Company
3. ADDRESS OF OPERATOR: P.O. Box 2659, Casper, Wyoming 82602
4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.) 2548' FSL & 512' FEL
   AT SURFACE:
   AT TOP PROD. INTERVAL:
   AT TOTAL DEPTH:
5. LEASE: U 25097
6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
7. UNIT AGREEMENT NAME:
8. FARM OR LEASE NAME: South Crawford Mountain
9. WELL NO.: 1-35
10. FIELD OR WILDCAT NAME: Wildcat
11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 35, T10N, R7E
12. COUNTY OR PARISH: Rich
13. STATE: Utah
14. API NO.: 43-033-30026
15. ELEVATIONS (SHOW DF, KDB, AND WD): 7246'GL, 7267'KB
16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:		SUBSEQUENT REPORT OF:
TEST WATER SHUT-OFF	☐	☐
FRACTURE TREAT	☐	☐
SHOOT OR ACIDIZE	☐	☐
REPAIR WELL	☐	☐
PULL OR ALTER CASING	☐	☐
MULTIPLE COMPLETE	☐	☐
CHANGE ZONES	☐	☐
ABANDON*	☐	☐
(other) See Below		

(NOTE: Report results of multiple completion or zone change on Form 9–330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

PROGRESS REPORT
See Attached

From: 10-11-80 To: 10-18-80

RECEIVED
NOV 12 1980
DIVISION OF
OIL, GAS & MINING

Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

18. I hereby certify that the foregoing is true and correct

SIGNED M.E. Kruger By Wolf West TITLE Drilling Supr. DATE 11-7-80

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

SOUTH CRAWFORD MTN #1-35 WELL HISTORY

10-11-80 3,269' MADE 0' IN BIG HORN FORMATION. MW 8.5, VIS 46. OPER STUCK. JARRED ON FISH, FREE POINT W/PETROLOG, FREE TO 2,790', BACKED OFF @ 2,790', GOT 4 DC'S, POH, L/D FISH, TIH. SCREW INTO FISH @ 2,790', JAR ON SAME, WILL RECHECK STRING W/FREE POINT AGAIN TODAY. WILL ALSO ATTEMPT TO AERATE MUD TO FREE POINT.

10-12-80 3,269' MADE 0' IN BIG HORN FORMATION. MW 8.5, VIS 46. OPER STUCK. JAR ON FISH, RIG UP & RAN FREE POINT, NO IMPROVEMENT, CONT TO JAR ON FISH, RE-RAN FREE POINT, 1 DC LOOSE, CONT JARRING, JARS QUIT WORKING, FREE POINTM 1 MORE DC LOOSE, BACK OFF 2 DC'S BELOW JARS, TOP OF FISH NOW @ 2,848', POH, LAY DOWN 2 DC'S & CHANGE OUT JARS, TIH. TIH. RIGGING UP AIR EQUIPMENT TO AERATE MUD TO FREE POINT.

10-13-80 3,269' MADE 0' IN BIG HORN FORMATION. MW 8.5, VIS 46. OPER TRIP. SCREW INTO FISH @ 2,848', WORK SAME & R/U AIOR. DISPL HOLE W/AIR & FISH CAME LOOSE, TRIP OUT W/FISH.

10-14-80 3,269' MADE 0' IN BIG HORN FORMATION. MW 8.4, VIS 51. POOH L/D FISHING STRING. TIH W/BIT, CIRC & COND HOLE. POOH LOG W/SCHLUMBERGER. LOGGERS TD 3,273'. "BIG K" & RIG-UP TRUCK DROPPED JARS ON LOGGING SONDES OF SHLUMBERGER'S. TOOLS. TOOLS STILL STILL WORK. BHC, SGR, DIL, FDC, CNL, DIPMETER, CYBERDIP, 4 RUNS, LOGS INTO AIRPORT AT SLC @ 10;)) AM.

10-15-80 3,269' MADE 0' IN BIG HORN FORMATION. MW 8.9, VIS 51. FINISHED LOGGING, TIH & CIRC, WOO, POH, WAIT ON TESTER, BROKE DOWN IN EVANSTON. DIPMETER INDICATES FORMATIONS PENETRATED ON TOP OF STRUCTURE.

10-16-80 3,269' MADE 0' IN BIG HORN FORMATION. MW 8.4, VIS 40. WAIT ON TESTER. P/U TOOLS TO RUN DST #1, WOO. L/D TOOLS. TIH W/BIT. CIRC & WOO. TOH. P/U TEST TOOLS. TIH. COLD & SNOWING.

10-17-80 3,269' MADE 0' IN BIG HORN FORMATION. MW 8.4, VIS 44. OPER CIRC. NOWSCO COILED TBG UNIT & PUMP TRUCK COULD NOT MAKE IT TO LOCATION-CLOSED ROADS. RUN DST #1 TEST 2,101'-3,269', PKR SET AT 2,101', BTM BOMB @ 2,114', IH=915, IF=21 MIN =255 PSI, ISIP=299 MIN(W/O HOWSCO)=473 PSI, FF=31 MIN-NO FLOW=473 PSI, FSIP=125 MIN=473 PSI, TOP BOMB @ 2,085', IH=598, FH=240 PSI, ISIP=460, FF=460 PSI, RECOVERED 1,050' OF PLAIN DRLG MUD, SAMPLE CHANGER=2,150 CC OF PLAIN DRLG MUD, CHLORIDES IN MUD & CHANGER=130 PPM, SAMLE CHANGER 0 PSI, BTM=62°, AFTER POH, L/D DST TOOLS, WOO, TIH W/BIT & DC'S, CIRC, NO BGG, NO TRIP GAS, LOST 200 BBLS MUD, NOW HAVE FULL RETURNS, PRESENTLY WAITING ON NOWSCO, WILL RUN DST #2 W/COILED TBG UNIT ON 10-18-80 FOR DAYLIGHT TEST.

SOUTH CRAWFORD MTN #1-35 WELL HISTORY

10-18-80	3,269'	MADE 0' IN BIG HORN FORMATION. MW 8.5, VIS 44. OPER CIRC. CIRC, 12 STD SHORT TRIP, CIRC, POH. ROAD TOO MUDDY & SLICK TO BRING IN COILED TBG UNIT, WORKING ON ROAD W/GRADERS & GRAVEL. TRIP IN HOLE TO COND.
10-19-80	3,269'	MADE 0' IN BIG HORN FORMATION. MW 8.6, VIS 45. OPER CIRC. TIH, CIRC & COND-WAITING ON ROADS FOR NOWSCO COILED TBG UNIT, WORKING ON ROADS W/GRADERS & GRAVEL. WILL ATTEMPT TO BRING IN TRUCKS THIS PM.
10-20-80	3,269'	MADE 0' BIG HORN FORMATION. MW 8.5, VIS 42. OPER DULL. CIRC & COND HOLE, WAIT ON ROADS TO GET NOWSCO IN TO LOCATION, NOWSCO ON LOCATION & RIGGED UP @ 6:00 PM 10/19/80, CIRC & COND, POH, P/U TEST TOOL & TIH, WAIT ON DAYLIGHT.
10-21-80	3,269'	MADE 0' IN BIG HORN FORMATION. MW 8.5, VIS 40. OPER CIRC & COND. ATTEMPT TO RUN DST #2, TOLL WOULD NOT OPEN, POH, L/D TEST TOOLS, TIH, CIRC & WAIT ON TOOLS, POH, PICK UP TOOLS FOR DST #3, TIH, WAIT ON DAYLIGHT TO BEGIN DST #3.
10-22-80	25'	MADE 0'. MW 9.0, VIS 51. WOO, BUILD MUD WEIGHT TO 9.0 PPG, PLUG # 1, 2,700'-2,800' W/50 SK CLASS "G" W/2% CACL2, LDDP, PLUG #2, 2,150'-2,350' W/125 SK CLASS "G" W/2% CACL2, LDDP, PLUG #3, 2,552', (25'-50'), CLASS "G" W/2% CACL2, NIPPLE DOWN, RIG RELEASE @ 6:00 AM 10/23/80.
10-23-80	25'	MADE 0'. MW 9.0, VIS 51. WOO, BUILD MUD WEIGHT TO 9.0 PPG, PLUG #1, 2,700'-2,800' W/50 SK CLASS "G" W/2% CACLS, LDDP, PLUG #2, 2,150'-2,350' W/125 SK CLASS "G" W/2% CACL2, LDDP, PLUG #3, 2,554',(25-50'), CLASS "G" W/2% CACL2, NIPPLE DOWN, RIG RELEASE @ 6:00 AM 10/23/80
10-24-80	25'	TEARING DOWN. LAST REPORT.

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

D

WELL INSPECTION RECORD

NAME OF COMPANY: Marathon Oil Co.

WELL NAME: South Crawford Mtn. #1-35

SECTION: SE 35 TOWNSHIP: 10N RANGE: 7E COUNTY: ~~Richfield~~ Rich

DATE: 12-11 1980 LOCATION INSPECTED

TOTAL DEPTH: _____ AT TIME OF VISIT

NAME OF DRILLING CONTRACTOR: _____

RIG NUMBER: _____

COMMENTS:

The well has been P & Aed; a regulation dryhole marker has been erected; and the reserve pond fenced and is drying. All equipment has been removed with the exception of a small water pump and a cattle guard. The location is clean, however, there has been no attempt to grade or restore the site; the soil is very rock and appears to be quite resistant to erosion. Marathon has strung a straw barrier around the drilling pad to contain erosion from the pad.

DATE: _____ SIGNED: MTM

SEND TYPED COPY TO COMPANY: YES _____ NO X

Form 9-331
Dec. 1973

Form Approved.
Budget Bureau No. 42-R1424

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

1. oil well ☐ gas well ☐ other Abandoned
2. NAME OF OPERATOR: Marathon Oil Company
3. ADDRESS OF OPERATOR: P. O. Box 2559; Casper, WY 82602
4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
   AT SURFACE: 2,548' FSL & 512' FEL
   AT TOP PROD. INTERVAL:
   AT TOTAL DEPTH:
5. LEASE: U-25097
6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
7. UNIT AGREEMENT NAME:
8. FARM OR LEASE NAME: South Crawford Mountain
9. WELL NO.: 1-35
10. FIELD OR WILDCAT NAME: Wildcat
11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 35, T10N, R7E
12. COUNTY OR PARISH: Rich
13. STATE: Utah
14. API NO.: 43-033-30026
15. ELEVATIONS (SHOW DF, KDB, AND WD): 7,244' GL, 7,264' KB

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF	☐		☐
FRACTURE TREAT	☐		☐
SHOOT OR ACIDIZE	☐		☐
REPAIR WELL	☐		☐
PULL OR ALTER CASING	☐		☐
MULTIPLE COMPLETE	☐		☐
CHANGE ZONES	☐		☐
ABANDON*	☒		☐
(other) Summary of Plugging			

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

South Crawford #1-35 was plugged on October 23rd, 1980. The first plug was set from 2,700' to 2,800' using 50 sacks of Class "G" cement with a 2% $CaCl_2$ additive. The second plug was set from 2,150' to 2,350' using 125 sacks of Class "G" cement with 2% $CaCl_2$. The third and final plug was set from 25' to 50' using 25 sacks of Class "G" cement with 2% $CaCl_2$.

The proper dry hole marker was scribed-welded and placed.

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Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

18. I hereby certify that the foregoing is true and correct

SIGNED Bob Caddy TITLE District Operations Manager DATE 5-19-81

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

FOR E. W. GUYNN
DISTRICT ENGINEER
JUN 1 1981

*See Instructions on Reverse Side

open

June 3, 1981

Marathon Oil Company
P.O. Box 2659
Casper, Wyoming 82602

Re: Well NO. South Crawford Mountain #1-35
Sec. 35, T.10N. R.7E.
Rich County, Utah

Gentlemen:

This letter is to advise you that the Well Completion or Recompletion Report and Log for the above mentioned well is due and has not been filed with this office as required by our rules and regulations.

Please complete the enclosed Form OGC-3, in duplicate. and forward them to this office as soon as possible.

Thank you for your cooperation relative to the above.

Very truly yours,

DIVISION OF OIL, GAS, AND MINING

Sandy Bates

SANDY BATES
CLERK-TYPIST

SCOTT M. MATHESON
Governor

GORDON E. HARMSTON
Executive Director,
NATURAL RESOURCES

CLEON B. FEIGHT
Director

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING
1588 West North Temple
Salt Lake City, Utah 84116
(801) 533-5771

June 3, 1981

Marathon Oil Company
P.O. Box 2659
Casper, Wyoming 82602

Re: Well NO. South Crawford Mountain #1-35
Sec. 35, T.10N. R.7E.
Rich County, Utah

Gentlemen:

This letter is to advise you that the Well Completion or Recompletion Report and Log for the above mentioned well is due and has not been filed with this office as required by our rules and regulations.

Please complete the enclosed Form OGC-3, in duplicate. and forward them to this office as soon as possible.

Thank you for your cooperation relative to the above.

Very truly yours,

DIVISION OF OIL, GAS, AND MINING

Sandy Bates

SANDY BATES
CLERK-TYPIST

Complied with Walt West MOC 6-5-81
(Second Sending Original 5-14-81)

Form 9-330
Rev. 5-63)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE (See other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R355.5.

9

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

5. LEASE DESIGNATION AND SERIAL NO.: U-25097

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ DRY ☐ Other Wildcat

b. TYPE OF COMPLETION: NEW WELL ☐ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other Abandoned

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: South Crawford Mountain

2. NAME OF OPERATOR: Marathon Oil Company

9. WELL NO.: 1-35

3. ADDRESS OF OPERATOR: P. O. Box 2659; Casper, WY 82602

10. FIELD AND POOL, OR WILDCAT: Wildcat

4. LOCATION OF WELL (*Report location clearly and in accordance with any State requirements*)*
At surface: 2,548' FSL & 512' FEL
At top prod. interval reported below
At total depth

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: Sec. 35, T10N, R7E

14. PERMIT NO.	DATE ISSUED	12. COUNTY OR PARISH	13. STATE
43-033-30026	June 23, 1980	Rich	Utah

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (*Ready to prod.*)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
7-19-80	10-6-80	10-23-80 P&A	7,244' GL, 7,264' KB	-

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
3,269'	-		→	0-3,269'	-

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*: NONE ABANDONED

25. WAS DIRECTIONAL SURVEY MADE: No

26. TYPE ELECTRIC AND OTHER LOGS RUN: BHC, SGR, DIL, FDC, CNL, DIP METER, CYBER DIP

27. WAS WELL CORED: No

28. CASING RECORD (*Report all strings set in well*)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
20"	94#	963.72'	26"	2,060 sacks	None
13-3/8"	68#	2,246.60'	17-1/2"	1,050 sacks	None
		Abandoned in place			

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)
		None		

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
	None	

31. PERFORATION RECORD (*Interval, size and number*): None

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
	None

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (*Flowing, gas lift, pumping—size and type of pump*)	WELL STATUS (*Producing or shut-in*)

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD →	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)

34. DISPOSITION OF GAS (*Sold, used for fuel, vented, etc.*)

TEST WITNESSED BY

CONFIDENTIAL

35. LIST OF ATTACHMENTS
All information about this well is to be held confidential until May 14, 1982.

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED Bob Caddy TITLE District Operations Manager DATE May 14, 1981

*(See Instructions and Spaces for Additional Data on Reverse Side)

JUN 16 1981
OIL, GAS & MINING

INSTRUCTIONS

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 33, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

Items 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: *"Sacks Cement":* Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

South Crawford #1-35

37. SUMMARY OF POROUS ZONES:
SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.
Three Forks Bighorn	2,101'	3,269'	DST #1 IHP 921 IF 473 21 min. ISI 480 299 min. FF 480 31 min. FSI 480 125 min. FHP 915 Recovered: 1,050' mud sc: 2,150 cc mud
"	2,101'	3,269'	DST #2 Misrun
"	2,101'	3,267'	DST #3 IHP 879 IF 421 439 min. ISI 421 51 min. FF 421 27 min. FSI 440 108 min. FHP 879 Recovered: 1,030' mud sc: 10 cc mud

38. GEOLOGIC MARKERS

NAME	TOP MEAS. DEPTH	TOP TRUE VERT. DEPTH
Madison	1,094'	
Three Forks	1,964'	
Jefferson	2,305'	
Bighorn	2,763'	
TD:	3,269'	

★ U.S. GOVERNMENT PRINTING OFFICE: 1974-780-680/VIII-238